THE OIL WEEKLY

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The Oil Man's Calendar

APR. 13	American Petroleum Institute, Division of Production, Pacific Coast District, Los Angeles.
15-16	National Petroleum Association, Cleveland, Ohio.
26-28	Western Petroleum Refiners Association, Hot Springs, Arkansas.
MAY 6-7	American Petroleum Institute, Division of Production, Eastern District, Columbus, Ohio.
10-16	American Gas Association, Natural Gas Department, Kansas City, Missouri.
19-21	Natural Gasoline Association of America, Tulsa, Oklahoma.
23-27	National Association of Purchasing Agents (Oil Company Buyers Group), Pittsburgh, Pa.
JUNE 1-3	American Petroleum Institute, Mid-Year Meeting, Colorado Springs, Colorado.
10-12	Pennsylvania Grade Crude Oil Association, Sailing from Buffalo, New York.
11	Interstate Oil Compact Commission, Santa Fe, New Mexico.
14-19	Second World Congress of Petroleum, Paris, France.
25-27	National Oil Scouts Association, Dallas, Texas.
OCT. 11-16	Oil World Exposition, Houston, Texas.
14-16	Independent Petroleum Association of America, Houston, Texas.
29-30	Mid-Continent Oil and Gas Association, Texas Division, Dallas, Texas.
NOV. 9-12	American Petroleum Institute, (Annual), Chicago, Illinois.

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SINCLAIR

LOOKING AHEAD

WITH THE EDITOR

Is Future Oil Supply Sufficient? Dependable Water Source Needed. Anahuac Conservation and Yield.

WITH demand for oil showing a marked increase, a question uppermost in the minds of the public and many oil men is—Where is the new oil to come from and how much of it is there? It is impossible to accurately estimate the magnitude of undiscovered supplies, but Dorsey Hager uses the "density factor" for this work and makes some very interesting calculations. Carrying out past results into the future he estimates future recovery will be approximately 45 billion barrels, or 2½ times the amount produced to date. His figures probably are very conservative, as they do not take into account deeper drilling possibilities. However, they are important in that they indicate the next generation, at the least, does not have to worry about its petroleum supply.

WHILE the industry is primarily concerned with the drilling of wells for oil, it must also give consideration to water wells; for a dependable water supply is a major item in practically all its operations. Wells for water production have been improved, including the gravel-wall type. The application of gravel-wall wells, and the various types that are available has been studied to a considerable extent by one large pipe line company and is to be the basis for an interesting article next week.

BECAUSE every effort is being made to conserve gas as a flowing energy, it is estimated by some that 90 per cent of the calculated oil content in the Anahuac reservoir will be produced ultimately. A discussion of gas volumes, reserves and production will conclude the series of articles on Anahuac, which has produced 3,000,000 barrels to date and is expected to yield an additional 254,000,000 barrels in the future.

This Week

Jennings Revived

THE oldest field in the Louisiana Gulf Coast is today the scene of the greatest concentrated drilling activity in the district. The old Jennings field, shown in the background, was found 36 years ago, but during the past year deeper production was discovered on the southwest flank; bringing about its revival. Thus, is the significance of deeper drilling once again proved. Considerable importance is being attached to the new Jennings development. The well at the left foreground of the picture, A. G. Glassel's Trushell 1, cored approximately 70 feet of oil bearing sand.

THE first quarter of 1937 has been fairly satisfactory, despite excessive production. Crude output was up 15.7 percent over the corresponding period of 1936, but high demand, which reached 13 percent more than in last year, tended to somewhat offset this increase. The larger yield, however, resulted in 5,500,000 barrels going into storage, whereas last year 1,500,000 barrels were withdrawn in the same period. The outlook for the second quarter is more promising. Large volumes of business and better prices indicate higher earnings for the second quarter. April crude production will be more closely balanced with market demand than in recent months, as a result of allowable curtailment by some states. This has tended to strengthen crude and refined markets. **Page 14.**

LAST week the union made known its hoped for labor policy in the petroleum industry. It includes a "minimum annual wage," rather than day rates, besides other benefits. Meanwhile, C. I. O. started its unionization drive by holding several meetings. While at Austin and Washington, legislators considered the situation created by the sit-down strike, and laws regarding this question may be forthcoming soon. **Page 11.**

THE House of Representatives last week started consideration of the Connally contraband oil act. The House oil subcommittee was instructed to consider the bill passed by the Senate March 29. The new bill would merely make permanent the law that expires June 15. The House has received several requests for time at the hearings, mostly from marketers and labor organizations. **Page 13.**

THAT causes the accumulation of oil and gas. Since it is an established fact that a hole full of salt water will prevent the rise of oil or gas to the surface, James Gardner has not been satisfied with the "anticlinal theory." Now he suggests a brand new idea on the subject. Unquestionably the salt water table has retreated and advanced many times with orogenic movements of uplift and depression over wide areas. This sort of process, Gardner concludes, might easly account for the accumulation of oil and gas deposits, as it would drive oil and gas ahead of it into traps existing at the time. **Page 18.**

SEVERAL concerns have been successfully using acid to free stuck drill pipe when in formation containing a large percentage of limestone. The acid eats up the formation or boulder holding the pipe, so that the hole is enlarged sufficiently to permit extraction. This new use of acid, and the practices that should be employed, are interestingly described by John G. Staudt. **Page 30.**

THE economic aspects of deep drilling are so far-reaching as to touch practically every phase of industrial life. Current increasing demand will in the future be largely met by producing areas lying beyond depths considered impossible a few years ago. Five-figure depths are being reached with comparative ease today, thus placing a new value on many districts and marking the entry of the industry into a new era. **Page 20.**

CURRENT SITUATION

Outlook.—Favorable; oil demand heavy; market stable.

Crude Market.—Remains firm.

Refined Oil Markets.—Steady; price trends upward.

Crude Production.—Down 17,425 barrels to 3,401,425 daily.

Crude Runs to Stills.—Down 55,000 barrels to 3,005,000 daily in week ended April 3.

Crude Stocks.—Up 2,032,000 barrels in week ended March 27; gain of 8,376,000 in 9 weeks.

Gasoline Stocks.—Down 381,000 barrels in week ended April 3, from peak to 83,157,000.

Gas and Fuel Oil Stocks.—Down 786,000 barrels in week ended April 3, to 95,805,000 barrels.

Drilling.—Completions up 150 last week; total 595 wells.

See* MARKET SECTION *for Details

Simmered Down

A MILLION men at two dollars a month—a juicy enough plum to warrant a man coming all the way over to the U.S.A. from Russia to muscle in—not to mention the mere distance from Pennsylvania and Michigan to the Southwest!

Of course, the stormy petrels of the mining union organizations are not moving into the oil fields to tell the best paid men in the country what they should do just because of a paltry $24,000,000 a year—oh, no! These gentry who have made the front page in stories of dissensions and strife for half a generation or more are not coming down here just for the do-re-mi—oh, no! They are down here because they have found out how much worse off the $7 a day roughnecks, the $12 a day drillers are than men in the mining industry in Pennsylvania. And they are so interested in promoting the welfare of the best-paid workers in the country that a fund that would make many an oil company's bank balance look like dog meat has been advanced to "promote" the CIO "enrollment" work in the oil fields.

Let's look this thing squarely in the face. What can these men from an alien industry—the coal mining industry primarily—do to help the men in the oil industry?

They *say* that they are going to get a minimum annual wage for union oil field workers. But have they been able to do this for their members in other industries? And can they force the drilling of wells to produce the necessary amount of work for an annual minimum wage any better than it is already being done?

They *say* that they are working for the free right of collective bargaining. But in fact, they are trying to close collective bargaining except through themselves. A member of an American Federation of Labor craft will have to let these newcomers do the bargaining. And a man who wants to do his own bargaining will be out on a limb with a bunch of CIO boys sawing away at the limb.

They *say* that they are working for job security through seniority. Ability means nothing, under their plan. Is there any industry where a fellow with the stuff can go higher than in the oil industry? Seems like we remember some rather prominent executives who used to be drillers, who used to drive trucks, and all that sort of thing. As a matter of fact, there are so few oil company executives who were born with silver spoons in their mouths that you could hide them under a blotter. But the offices are full of successful men who have job security and seniority through ability and work. As we see it, the main job security developed through the CIO would be the job security of the boys spending the $24,000,000 a year—provided oil industry workers are foolish enough to be misled by the coal miners who want to tell them how to run their business.

They *say* they are working to get the right to settle differences without coercion. Whose coercion? As a matter of fact the whole CIO movement is based on coercion. Most oil executives, having risen from the ranks, are fair-minded men. Most of them have done a great deal of the work their own employees are doing. They are impatient of inability—yes—but ability brings a genuine response. And those we know—and our acquaintance is pretty wide—are not the coercing kind.

They *say* they want a 36-hour week. They are a little late with that one.

They want over-time penalty. Extra time for overtime formerly was paid because a man had already worked a hard day's work and was entitled to something over and above the regular hour wage for extra time. Thirty-six hour weeks are not strenuous—but hours and wages in the oil fields have been improving tremendously during the past few years, and if there is something to the proposition of a "penalty" for overtime, it is our guess that the average company will come to it a lot more quickly if dealing with its own employees than it will dealing with men furnished "for leadership" by the coal industry, which is already an antagonist—not a friend—of the oil industry.

In all they *say* we see no reference to the various company benefits which oil company employees already receive from most of the large and many of the small companies. How about death and disability benefits? How about the vacation plans already in effect in oil companies? How about various types of company insurance already in force? How about the efforts made by oil companies to solve the housing conditions of oil country workers? Most of the larger companies, and most of the smaller companies financially able to do it, go a long way in this housing problem.

The big companies are the targets at which the dark haired boys from the coal mines are shooting, yet we'll bet a dollar to a plugged nickel that before this scrap is over they will be showing pictures of "oil field shacks" as typical!

The whole thing seems to simmer down to this:

Here are the big boys of strikedom sitting in conferences. The air is thick with expensive cigar smoke. So thick we can not make out all the features of the conferees or what else, beside some feet, is on the table.

"Boys, this oil business is a cinch. Lots of money. You know, everybody has the idea that any oil man is a millionaire. Ought to be a cinch to do something with the boys working for these oil companies. Let's see—how many are there?"

"Round a million I hear," says the boy next to the window.

"Whew—two bucks a month—one million members. Say, bo, you add that up."

"That's $24,000,000 a year!"

Thick silence while the figures sink in.

"Seems to me these downtrodden oil workers need us fellers. It's a shame we ain't done nothing about it before this!"

Start Union Drive

SEEK MINIMUM YEARLY WAGE; LEGISLATORS OPPOSE STRIKES

Houston.—The effort to regiment oil company workers under the banner of John L. Lewis is scheduled to go forward in the weeks ahead, following the commencement of a national drive last week in the oil refining districts of Houston and Beaumont on the Texas coast. Organization meetings are planned in Texas, Wyoming and other oil producing states.

For the recruits, the organization last week proposed a somewhat unusual battle-cry: "Union oil workers shall be paid minimum annual wages!" The Lewis group offers as a basic policy this demand for greater year-round security for oil company employees.

Recognition Is First Goal

At the same time, the group has as its immediate objective the gaining of industry-wide recognition of collective bargaining rights for workers. In effect, the Lewis group at present demands only that it be recognized as the agency for doing the bargaining for the workers.

In line with this immediate demand, the group wants to see the company union thrown into the discard. Toward that end, the organizers charge that the company union is dominated by the company officials, and that the company union consequently does not benefit the worker.

Subject to criticism as they began their oil industry drive, on the grounds they would bring on sit-down strikes in the petroleum world, the Lewis group organizers quickly denied that they favor or will sponsor sit-downs in the industry.

Nevertheless, the drive within the oil industry immediately became a matter of concern in governmental circles, particularly in Texas, the country's No. 1 oil producing state.

Sit-Downs Opposed in Texas

It was not a mere coincidence, probably, that youthful Jimmy Allred, governor of Texas, several days before commencement of the Lewis drive in the oil industry, declared he would do all in his power to prevent sit-down strike methods in the state. The labor organizers wired in protest to the governor, saying that if he was casting insinuations toward them, he was ill-informed, as they did not contemplate any sitting down. The governor noncommittally replied that he had not called any names.

The Texas legislature, meanwhile, saw eye to eye with Governor Allred, in the determination to prevent, if possible, the use of the sit-down strike method, in any labor movement that might be undertaken in the state. The Texas senate April 6 passed, by vote of 22 to 7, a bill intended to block possible sit-down strikes in the state.

On April 8 a committee of the Texas house of representatives had approved two bills aimed against sit-down strikes. One was a modified version of the bill passed by the senate, reducing the offense from a felony to a misdemeanor, and lowering the penalty. The other was a house bill. Under either bill approved by the house committee, peaceful picketing and negotiations would be permitted, and possible conflict with anti-trust laws would be eliminated. The bills, as tempered by the house committee, bore the approval of the Texas Federation of Labor.

Congress Considers Situation

While the Texas legislature was considering these bills, the United States Congress also was taking action in the labor situation. The Senate passed a resolution condemning sit-down strikes and also condemning employers who combat unionization of their workers through the use of labor spies and other espionage weapons. The House, however, declined to take an immediate vote on the senate resolution, and furthermore voted down a proposed House resolution calling for a congressional inquiry of sit-down strikes. Previously, the House rejected, 184 to 38, a resolution authorizing a committee investigation of "un-American" organizations operating in the country.

Lewis Group Faces Opposition

As it went about its efforts to organize oil company workers under its banner, the Lewis-led Committee for Industrial Organization met opposition from three directions. (1) On one side was the opposition offered by many workers themselves, to being unionized. (2) On the other side was the silent but powerful opposition of oil company managements that naturally resented the intrusion of union leaders between themselves and their employees. (3) Finally, there was the brother-against-brother opposition of the constituted leaders of the American Federation of Labor, against whom the Lewis group had rebelled.

The opposition of the first kind was demonstrated last week in various instances. Employees of The Texas Company, without consultation with officials of the company, sponsored a mass meeting at Port Arthur, Texas, against the C.I.O. and its policies. Employees of some other companies similarly held anti-Lewis meetings, on their own initiative.

A. F. of L. Offers Opposition

The opposition that the Lewis group is meeting from the American Federation of Labor is demonstrated in the plans of the A. F. of L. to carry out a similar organization drive among oil company workers, concurrently with the C.I.O. drive. John P. Frey, an official of the A. F. of L., stated at Washington that he had received a mailed threat from Houston to "get out of the picture" . . . or be killed. But Frey asserted he would leave for Houston April 12 to start the proposed campaign.

Cooperating with the national organization of the A. F. of L. in the drive in the Southwest, will be the Texas Federation of Labor, state unit of the organization. An official of the Texas unit asserted that there is no room for the C.I.O. in Texas and that the energies of the state federation will be spent to keep it out.

C.I.O. Drive Nation-Wide

The oil industry drive of the Committee for Industrial Organization is scheduled as a six months' campaign throughout the United States, aimed at the enrollment of a million workers in an industrial union. It is being directed from C.I.O. headquarters in Washington. Houston is one of the seven subordinate headquarters.

The drive was started last week in the Houston, Beaumont, and Port Arthur oil refining districts under the direction of Harvey C. Fremming, president of the International Association of Oil Field, Gas Well, and Refinery Workers, which is affiliated with C.I.O.

In those meetings the aims of the C.I.O. as regards oil workers were outlined as embodying: "minimum annual wages for union oil workers; free right of collective bargaining; job security through seniority; the right to adjust grievances without coercion; penalties for over-time work; universal observance of the 36-hour work week; and pay for unavoidable illness."

Annual Pay Basis Advocated

The union leaders asserted that the proposed annual basis of pay for oil workers will come in for important discussion in any conferences with any oil company. Since the plan would set up a new basic structure for wage earnings, it was stated, the union recognizes that there must be a period of education, lasting possibly as long as five years, before achievement of the goal.

"This policy," said Fremming, "will do away with pay rates and hour rates, both of which are at best makeshifts in the distribution of proper wages, and this policy will enable the oil worker to maintain his American standard of living the whole year instead of only for a part of the year. The way things are now, some men only get 200 days of work a year."

TENDER BOARD At Corpus Christi is up for consideration

Washington, D. C.—Establishment of a second tender board, in Corpus Christi, Texas, is under consideration by Interior Department officials, it was learned this week.

A representative of the department is now in the Texas city making a study of the situation, it was said by Secretary Harold L. Ickes who, however, refused to discuss the situation in detail pending receipt of a report.

It was indicated at the department that the situation in the Corpus Christi area has given concern for some time and it is possible that, if the situation proves as serious as it has been represented, a second federal board will be established.

Involve Basic Laws

HEARING ON SOUTH HOUSTON BECOMES QUITE IMPORTANT

Austin, Texas.—The Railroad Commission hearing to determine a proper method of fixing allowables in the South Houston field, Harris County, has developed problems of unusual significance to the Texas oil industry. Ordinarily, hearings of this nature require two or three hours. Two full days were devoted to the discussion of South Houston. Little testimony was presented other than that by two principal witnesses.

Independents, who own a relatively small part of the 500-acre field, sought a commission order which would provide for allowables on potential alone. Stanolind Oil & Gas Company, major operator in the field, urged an order that would give at least some consideration to acreage as a factor.

Gill Favors Close Spacing

While this question was relatively simple, the hearing developed a general discussion of spacing rules and proration methods. Stanley Gill, who appeared for the independent producers, testified that drilling in South Houston should require one well to each sand on each five-acre tract. He said that one well to one acre would recover more oil from the field, but would be unprofitable from the operating standpoint.

"As a matter of fact, there is no reason for the railroad commission spacing rule," Gill said, "except to prevent fire hazard." An orderly drilling pattern will recover more oil than an irregular one, he said, unless it happens that the irregular drilling program causes more wells to be drilled and thus increases the recovery from the field.

Buck for Wide Spacing

Opposed to this program was the testimony of E. O. Buck, who appeared as consultant for Stanolind Oil & Gas Company.

Buck testified that one well to 16 acres was sufficient development for the South Houston field. He stated that, as a usual thing, one well to 20 acres would be sufficient to develop any field unless pressures were low, the gravity of the oil was high, and the sand was relatively thin.

He asserted that the commission had one important duty and that was to conserve reservoir energy so that pressure would not decline and would be available to move the oil through sand to the well bore. Buck advanced the argument that if too many wells are drilled total field allowables are excessive, the oil loses fluidity.

"This," he said, "results in unreasonably rapid pressure decline which makes the oil less fluid in the reservoir and prevents its movement toward the wells."

C. L. Black, attorney for Stanolind Oil & Gas Company, declared that his company's property would be subject to confiscation unless the commission provides an acreage order. "You have told us that we might drill more wells," he said, "but this will not help us. If we do not drill these wells our leases will be drained and our oil confiscated. If we proceed with drilling and bring the density of our leases down to the average for the field, then you have forced us to spend our money, and, in effect, confiscated that."

Proration Explained

After conferring with Commissioner Smith, who was present during this portion of the testimony, Commissioner Thompson informed Black that the commission would not confiscate anyone's property by refusing him a permit to drill wells. He explained that proration is for no other purpose than to see that an allocation is made to each producer.

"The more wells you drill," Thompson said, "the lower will be the allowable for each well. When the allowable declines to a point where drilling is no longer profitable, it will stop. When you try, as we are doing, to limit supply by artificial means, you are faced with a grave problem.

"This plan has worked in oil alone. It has been tried with other products and has failed. Perhaps it is failing now in the oil business. Should that occur, then the problem will be back in the hands of the people who brought it to the railroad commission."

Thompson explained that he believed it the duty of the commission to attempt to provide an orderly drilling pattern for each oil field and to conserve the energy in the reservoir to insure the greatest ultimate recovery.

Because attorneys for both sides questioned witnesses so carefully, and sought to include in the record the comments of the commissioners, it was apparent that both sides planned a court suit in the event they lost before the commission.

Interjected into the hearing were frequent references to the city ordinance of South Houston, which limits drilling in the townsite to one well on each 16 acres. Attorneys for the independents insisted that Stanolind Oil & Gas Company had not sought to drill more wells than this ordinance provided and declared that the additional wells could be had if the company desired them.

Approve Bill

SENATE COMMITTEE FAVORS WALSH NAVAL RESERVE BILL

Washington, D. C.—Enactment of the Walsh bill providing for the consolidation of the naval reserves was given the approval of the Senate Naval Affairs Committee in a report submitted to the Senate April 9.

In sending the bill to the Senate, the committee made a number of changes designed to insure that the authority granted the Secretary of the Navy shall be used exclusively for the protection of the naval reserves and to require that any action taken by the navy department to acquire lands or leases in Reserve No. 1, by purchase or condemnation, shall be reported annually to Congress.

Concerned With No. 1 Reserve

"Although the provisions of this bill are applicable to all the navy's fuel-oil reserves, its chief purpose is to conserve and preserve underground the oil remaining in Naval Petroleum No. 1," the committee explained. "If the bill is enacted effective steps may be taken to carry out the original policy of maintaining a great naval petroleum reserve in the ground. The Elk Hills reserve can then be maintained as a form of national insurance protecting the navy's future efficiency. As long as this reserve is protected from drainage, the navy will have an adequate reserve supply of fuel oil underground. It is not improbable that some day the safety of the United States may depend on the oil remaining in this reserve."

While legislation has as its immediate objective the preservation of Reserve No. 1, the committee pointed out that it is "both necessary and vital" to extend to the naval oil-shale reserves and other naval fuel reserves all applicable provisions of law covering the naval petroleum reserves in order that the navy department's jurisdiction and administrative authority over all lands reserved for the same purpose may be covered by the same laws.

With respect to Reserve No. 1, it was pointed out that Standard Oil Company of California, which owns 4662 acres and is the largest single operator in the field, is not producing a great quantity of oil from its holdings at the present time but that "it may become necessary for it to extend its operations in this area to its fee-owned lands within the reserve in the near future."

The measure authorizes the secretary of the navy to enter into agreements with operators on adjoining private lands, for the purpose of conservation; to exchange government land in the reserve for private lands therein; to acquire privately owned

[*Continued on page 61*]

Closing Arguments

"CONSPIRACY" CASE DEFENSE MOTIONS TO END NEXT WEEK

Madison, Wis.—Closing arguments on defense motions in the government's "oil conspiracy" case will be heard here April 15 and 16, and are expected to clear the way for trial this summer of the 26 major oil companies, 71 individuals and three trade journals charged in two sets of indictments returned here last year.

The charges grew out of alleged illegal operation of buying programs in the East Texas and Mid-Continent fields which government attorneys charge were used to raise artificially the retail price of gasoline in 10 midwestern states and to "squeeze out" independent jobbers. A Wisconsin federal grand jury was impaneled here just one year ago to investigate the industry following complaints of independent jobbers.

With the exception of 14 individual defendants, all who face the charges have entered pleas of innocent. Ten of those who have not yet entered pleas have been ordered by Federal Judge Patrick T. Stone to appear here not later than Friday for arraingement. Four await removal hearings in their home districts.

Motions are Overruled

Defense motions presented during the past four months to bring dismissal of the charges on grounds that the original grand jury which returned the indictments was illegally drawn, and that the indictments were vague and did not state an offense, were overruled by Judge Stone, frustrating attempts of defense attorneys to avoid costly trials which are expected to take from three to six months.

Defense motions remaining to be argued this week seek a bill of particulars elaborating on the charges set forth in the indictments; seek to release grand jury witnesses from their oaths of secrecy which would aid defense attorneys in preparing for trial, and seek a return of documentary evidence subpoenaed from oil companies for the examination of investigating grand juries.

HEARING CONTINUED

Carlisle contests Madison court's jurisdiction

Houston.—Removal hearing before United States Commissioner W. F. Carothers, in which O. H. Carlisle, Houston division manager of Gulf Oil Corporation, is contesting jurisdiction of the Madison, Wisconsin, federal court, where the oil "conspiracy" indictments were returned, will continue in Houston April 12 and probably for several days after that.

Testimony introduced April 7, 8, and 9 was intended primarily to show that Carlisle and Gulf Oil Corporation had nothing to do with the formation and subsequent functioning of a buying pool alleged in the indictment to have existed among major companies in East Texas during 1935 and to show that Carlisle and the corporation had nothing to do with formation or subsequent function of the East Texas Refiners Marketers Association.

The position of the defense, in addition to that inferred above, is that even had such events occurred as the government charges during the period involved, they would not have been illegal, because of the supreme court's decision in the Schecter case.

Importance of the Houston hearing and its possible bearing on the main trial in Madison and on three other removal hearings in other parts of the country was attested by the presence of William Joseph ("Wild Bill") Donovan, chief counsel for all other defendants in the case pending in Madison.

John E. Green, Jr., former federal attorney in Houston and now general counsel for the Houston division of Gulf Oil Corporation, and Arch D. Gray, former assistant attorney general of Texas, represented Carlisle.

Assistant Federal Attorney George John was in charge of prosecution, but was assisted by three special assistant attorneys from Washington, J. H. Lewing, H. E. Chaffetz, and G. W. Kallaher.

Connally Bill

CONSIDERATION BY HOUSE IS INSTRUCTED TO START

Washington, D. C.—Consideration by the House of Representatives of continuation of the Connally contraband oil act as permanent law got under way last week, when Representative Lea of California, chairman of the Interstate and Foreign Commerce Committee, on April 8 instructed the oil subcommittee headed by Congressman Cole of Maryland to consider the bill passed by the Senate March 29.

The legislation, introduced by Senator Connally of Texas, would merely eliminate the final section of the act, which provides for its termination on June 15. A similar bill was introduced in the House by Representative Dies of Texas.

The oil subcommittee is the group which more than a year ago made a thorough investigation of conditions in the industry, and because of its familiarity with the subject it is not anticipated that any lengthly hearings will be held. In addition to Congressman Cole, the group consists of Representatives, Pettengill of Indiana, Kelly of Illinois, Mapes of Michigan and Wolverton of New Jersey.

Several Testimony Requests

Since the passage of the bill by the Senate, a large number of requests have reached the House committee for time during hearings on the bill, which are expected to be held this month.

Most of the requests, it has been learned, are from marketing organizations which feel they were not given an adequate opportunity to present their side of the picture during the Senate hearings. Organized labor in the industry also plans to be represented, probably by Harvey Fremming, president of the International Association of Oil Field, Gas Well and Refinery Workers, who will ask for an amendmnet providing a maximum working week of 36 hours and the establishment of minimum wages.

The subcommittee will hold its first meeting on the bill April 13, at which time it will probably set a date for the hearings.

LITIGATION ENDS

Approve Hamilton Gas Company reorganization

Charleston, W. Va.—Federal Judge George W. McClintic last week approved an amended plan of reorganization of the Hamilton Gas Company, ending more than five years of litigation over the company.

Holdings of the company, valued at about $2,000,000, are located in Clay, Nicholas, Kanawha, Cabell, Wayne and Putnam Counties in West Virginia, and in eastern Kentucky. Several hundred wells are included.

The plan will go into effect as soon as all details can be worked out, according to Stanley C. Morris, representing bondholders. It provides for a new board of three trustees: B. A. Wise, Charleston; C. L. Harper, Philadelphia, and R. M. Craigmyle, New York City.

The company went into receivers' hands in January, 1932, and remained there until bankruptcy proceedings were begun in June, 1934. A petition for reorganization under section 77-B of the bankruptcy act was filed, but the first plan submitted was rejected last June. Further amendments resulted in approval last week.

Outlook Is

LARGE volumes of business are in prospect for oil companies, and prices are expected to continue favorable. Favorable earnings consequently are expected.

FIRST three months of 1937 afforded larger profits than similar period last year, as more oil was handled, while prices of crude and products were higher.

ALTHOUGH crude oil production has been excessive lately, the stricter allowables of April are expected to bring output of the wells back in line with demand.

AS THE oil industry begins writing its record for the second quarter of the year, most of the signs point to unprecedented volumes of business and remarkably profitable operations.

Consumption of petroleum apparently will run over 10 percent higher than in the second quarter of last year thus affording a similar increase in volumes of business for the oil companies.

Moreover, crude oil prices currently are about 10 percent higher than in the second quarter of last year; while product prices, at the refineries and at the service stations, also are higher.

Excesses of Average Daily Crude Production Above Bureau of Mines Recommendations in Past Six Months

(Barrels Daily)

Note: Production figures calculated from American Petroleum Institute Reports.

MONTH	California	Kansas	Louisiana	New Mexico	Oklahoma	Texas	Other States	United States
October, 1936:								
Production	579,432	161,311	233,893	80,827	566,716	1,181,800	234,153	3,038,132
Demand	535,300	155,000	189,300	74,200	559,900	1,106,900	221,700	2,842,300
Excess	44,132	6,311	44,593	6,627	6,816	74,900	12,453	195,832
November, 1936:								
Production	584,013	160,772	233,785	83,432	566,258	1,151,233	240,540	3,020,033
Demand	549,600	154,500	198,600	75,600	558,400	1,109,300	224,300	2,870,300
Excess	34,413	6,272	35,185	7,832	7,858	41,933	16,240	149,733
December, 1936:								
Production	587,393	170,516	240,566	85,390	581,980	1,204,571	239,169	3,109,585
Demand	553,400	155,900	204,800	78,300	567,000	1,145,200	225,700	2,930,300
Excess	33,993	14,616	35,766	7,090	14,980	59,371	13,469	179,285
January, 1937:								
Production	589,374	169,068	244,523	92,365	587,316	1,252,056	238,688	3,173,390
Demand	559,900	165,600	216,300	79,800	573,100	1,176,000	227,700	2,998,400
Excess	29,474	3,468	28,223	12,565	14,216	76,056	10,988	174,990
February, 1937:								
Production	587,793	177,989	243,598	96,896	605,143	1,323,775	242,534	3,277,728
Demand	573,300	170,000	225,100	81,600	581,900	1,203,400	233,300	3,068,600
Excess	14,493	7,989	18,498	15,296	23,243	120,375	9,234	209,128
March, 1937:								
Production	589,439	186,731	245,115	102,229	627,763	1,392,742	251,087	3,395,106
Demand	570,900	178,000	240,000	88,200	590,700	1,256,600	234,600	3,159,000
Excess	18,539	8,731	5,115	14,029	37,063	136,142	16,487	236,106

The earnings of the oil companies in this year's second quarter consequently will be increased by the two factors, larger business volume and better prices, unless the period brings unforeseen unfavorable developments. However, half of the first month of the quarter already has elapsed, and at present there are no indications of any serious interruption of recent favorable trends.

Second Quarter Promising

April, at least, holds the promise of particularly satisfactory results, as crude production will be more closely balanced with market requirements than in recent months, under more strict allowables prescribed by the leading producing states.

By virtue of this better control of crude, the markets have become more firm, for both crude and refined oils, and prices are generally steady or tending to rise further.

In fact, there is considerable talk at present of the possibility of a further moderate increase of 10 or 15 cents in crude oil prices this spring. It is assumed, in that connection, that the crude raise would be accompanied by compensating advances of prices of refined products, wholesale and retail.

If the strict control of crude production that prevails in April is continued also in May and June, the period quite conceivably might bring the mentioned marking up of prices, especially in view of the oil companies' increasing costs of materials and labor.

First Quarter Results Good

The outlook for the second quarter appears particularly rosy in the light of the results in the first three months of the year. The first quarter fulfilled even the most optimistic expectations, as consumption of oils ran ahead of the official forecasts, while the large demand tended to hold the markets stable, at the favorable price levels, despite some excess output of crude oil. The oil companies did record volumes of business,

Bright for Second Quarter

By L. J. LOGAN, Associate Editor

and the prices were favorable, having been increased, from well to service station, in late January.

Several companies have indicated that their first quarter earnings were substantially higher this year than last year. One important producing company expects its profit for the first quarter this year to be about 75 percent higher than in the similar period last year, while an integrated company estimated its earnings would be 30 percent larger. The producing companies in general naturally will show substantial improvement in earnings, because of the increase of about 10 percent in crude prices in January, this year. But the integrated companies, too, have shown encouraging results, as refined oils as well as crude have been advanced in price.

Demand at Record Level

In the opening quarter of this year, the demand for petroleum ran at all-time record proportions. For the three months, the demand apparently was about 13 percent greater than in the similar period last year. Even in 1936 all previous records were exceeded, and so this year is setting new all-time records.

The country's production of crude oil in the first three months of this year, totaling 295,393,400 barrels, was 15.7 percent greater than in the corresponding period last year.

However, this year's crude output was somewhat in excess of the market demand, and about 5,500,000 barrels of crude went into storage in the three months. In contrast, the crude production of the first three months of last year was slightly under market requirements, and about 1,500,000 barrels of crude was withdrawn from storage, in addition to that taken from the wells.

These figures on production and stocks indicate that the demand for petroleum in the first quarter of this year was around 13 percent greater than the demand in the similar period last year.

The increased demand for petroleum has resulted from gains in consumption of most of the refined products. Important increases have occurred in the demand for fuel oil, lubricants, asphalt, and road oil, as industrial and construction activities have expanded. But kerosene and other products also have come into wider use. Gasoline, the leading revenue raising product, has continued to be used at rates around 10 percent higher than a year previously. The Bureau of Mines estimated that for April, this year, the gasoline demand would be 10 percent higher than for April, last year.

Meanwhile, the inventories of the various refined products have been kept at satisfactory levels. Gasoline stocks recently began the usual spring decline, after reaching an all-time peak. The gasoline storage is around 10 percent greater than a year ago, but as previously indicated, the demand for gasoline shows a similar improvement over that last year.

Moreover, it is stated that the present gasoline inventories are not as generally distributed as usual, and that some companies face the danger

Stocks of All Oils in the United States

At end of each year since 1918, and at end of each month in past year.

(Bureau of Mines Figures)

DATE	BARRELS				Days' Supply
	Crude Oil	Natural Gasoline	Refined Products	Total Stocks, All Oils	
End of Year:					
1918	.....	.....	.....	193,411,000	165
1919	.....	.....	.....	200,383,000	164
1920	.....	.....	.....	209,845,000	156
1921	.....	.....	.....	294,428,000	203
1922	.....	.....	.....	385,349,000	239
1923	.....	.....	.....	492,088,000	235
1924	.....	.....	.....	520,287,000	236
1925	.....	.....	.....	552,464,000	239
1926	.....	.....	.....	527,084,000	210
1927	.....	.....	.....	597,176,000	231
1928	.....	.....	.....	621,010,000	223
1929	.....	.....	.....	†689,497,000	228
1930	411,882,000	3,100,000	251,680,000	666,662,000	224
1931	370,194,000	2,825,000	258,879,000	631,898,000	221
1932	339,875,000	3,203,000	249,116,000	592,194,000	230
1933	354,223,000	3,680,000	244,295,000	602,198,000	226
1934	337,254,000	3,740,000	223,356,000	564,350,000	199
1935	314,631,000	3,698,000	223,371,000	541,700,000	166
End of Mo.:					
Jan., 1936	313,081,000	3,936,000	224,318,000	541,335,000	174
February	310,812,000	4,218,000	228,214,000	543,244,000	179
March	313,189,000	4,553,000	231,063,000	548,805,000	183
April	315,389,000	5,058,000	230,672,000	551,119,000	171
May	315,169,000	5,664,000	233,590,000	554,423,000	173
June	311,046,000	5,829,000	233,421,000	550,296,000	161
July	306,390,000	5,846,000	233,262,000	545,498,000	161
August	301,757,000	5,653,000	234,756,000	542,166,000	157
September	295,693,000	4,945,000	231,842,000	532,480,000	146
October	292,271,000	4,555,000	230,605,000	527,431,000	148
November	288,998,000	4,153,000	229,122,000	522,273,000	149
Dec., 1936	288,184,000	4,055,000	226,407,000	*518,646,000	‡146
Jan., 1937	286,759,000	4,032,000	229,340,000	520,131,000	155

† The stocks continued rising in first five months of 1930, reaching a peak of 700,808,000 barrels, May 31, 1930.

* Smallest for nearly 13 years, or since March 31, 1924, when total was 511,894,000 barrels.

‡ Smallest for 16 years, or since November 30, 1920, when stocks represented 144 days' supply.

Finished Gasoline Stocks

(Totals reported to the American Petroleum Institute, by companies owning about 90 percent of the country's refining capacity. Actual totals for nation must take into account the additional stocks not reported.)

DATE	Total Barrels Reported
March 16, 1935	†57,406,000
March 30	56,388,000
April 27	55,097,000
June 1	53,180,000
June 29	50,007,000
July 27	48,157,000
August 31	43,787,000
September 28	42,976,000
October 26	41,163,000
November 9	*40,780,000
November 30	43,190,000
December 28	46,472,000
January 4, 1936	47,288,000
January 25	50,368,000
February 1	52,831,000
February 29	60,881,000
March 21	†62,855,000
March 28	62,559,000
April 25	61,638,000
May 30	59,589,000
June 27	57,263,000
July 25	54,087,000
August 29	49,952,000
September 26	47,427,000
October 31	48,579,000
November 21	*47,213,000
November 28	47,897,000
December 26	51,383,000
January 2, 1937	52,603,000
January 30	57,884,000
February 27	65,872,000
March 27	†69,943,000
April 3	69,771,000

* Low point of year.
† High point of year.

of runnning short of supplies later this year, when the heavy consuming season gets under way.

Drilling Up 16.5 Percent

In line with the heavy demand for oils and the large production of crude, drilling has been carried on this year on an extensive scale. Although last year had about the same amount of drilling as 1929, this year is bringing more. In the first three months of 1937, well completions numbered 5970, or 16.5 percent more than in the similar period last year.

This 16.5 percent increase in drilling is largely justified by the 15.7 percent increase in crude oil production for the similar period and the gain of about 13 percent in the demand for petroleum.

Most of the states and districts in the United States have had more drilling in the first quarter of this year than in that period last year. Exceptions include Arkansas, North Louisiana, the Texas Panhandle, and the East Texas field, where declines have occurred.

Eastern Texas outside the East Texas field has had three times as much drilling this year as in the first three months of last year, while West Texas has had twice as much. New Mexico and Kansas also have had exceptional increases of over 50 percent in drilling. In most of the other districts, the drilling gains have been around 25 percent or less.

Production Excessive

The failure to restrict crude oil production within demand in the first quarter of 1937 resulted from too-high allowables in the leading producing states in February and March. This was shown by the fact crude stocks still were being reduced in January, the net withdrawal for the month having been about 1,500,000

Crude Oil Stocks

Bureau of Mines figures as compiled monthly, comprising all crude in storage in the United States.

At End of:	Total Barrels In Storage
January, 1935	338,174,000
February	337,319,000
March	339,139,000
April	339,793,000
May	338,559,000
June	334,757,000
July	329,351,000
August	324,966,000
September	320,705,000
October	317,155,000
November	315,558,000
December	314,631,000
January, 1936	313,081,000
February	310,812,000
March	313,189,000
April	315,389,000
May	315,169,000
June	311,046,000
July	306,390,000
August	301,757,000
September	295,693,000
October	292,271,000
November	288,998,000
December	288,184,000
January, 1937	286,759,000

Trend of stocks situation since end of January, figures being from weekly reports of Bureau of Mines.

February 27	288,121,000
March 27	293,587,000

United States Drilling and Production, March, 1937, and Cumulative for Year

STATE OR DISTRICT	MONTH OF MARCH, 1937						CUMULATIVE, JANUARY THROUGH MARCH, 1937					
	*Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	Total Bbls. Oil Prod.	*Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	Total Bbls. Oil Prod.
Arkansas	9	2	....	7	337	843,200	13	4	....	9	482	2,402,650
California	103	71	....	32	25,482	18,272,600	292	207	4	81	91,236	52,997,500
Colorado	3	1	....	2	2,400	140,500	5	1	....	4	2,400	360,100
Eastern States	313	76	158	79	1,375	3,556,900	741	188	364	189	3,476	10,359,200
Illinois	11	6	1	4	168	.....	11	6	1	4	168	.....
Indiana	7	2	3	2	45	.....	33	10	6	17	116	.....
Kentucky	10	8	....	2	280	.....	50	32	....	18	1,173	.....
New York	3	....	1	2	.....	.....	3	....	1	2	.....	.....
Ohio	161	34	82	45	654	.....	403	95	206	102	1,660	.....
Pennsylvania	28	8	11	9	118	.....	35	9	15	11	143	.....
West Virginia	93	18	60	15	110	.....	206	36	135	35	216	.....
Kansas	191	145	8	38	177,403	5,788,650	492	362	18	112	433,832	16,025,800
Louisiana	81	49	2	30	18,373	7,598,550	159	97	12	50	42,449	22,001,350
North Louisiana	26	19	1	6	5,227	2,160,400	52	32	8	12	11,636	6,625,800
South Louisiana	55	30	1	24	13,146	5,438,150	107	65	4	38	30,813	15,375,550
Michigan	80	40	11	29	25,912	1,151,500	194	87	29	78	35,464	2,915,150
Montana	1	....	1	....	.....	483,800	17	13	3	1	1,421	1,426,150
New Mexico	73	65	4	4	140,534	3,169,100	164	148	5	11	274,257	8,747,950
Oklahoma	258	190	13	55	283,376	19,460,650	665	472	38	155	785,648	54,581,600
Southeastern States	1	....	....	1	.....	.....	6	....	....	6	.....	.....
Alabama	1	....	....	1	.....	.....	1	....	....	1	.....	.....
Florida	....	....	....	....	.....	.....	....	....	....	....	.....	.....
Mississippi	....	....	....	....	.....	.....	5	....	....	5	.....	.....
Texas	1,338	1,008	31	299	1,372,211	43,175,000	3,198	2,384	94	720	3,403,002	119,064,550
East Texas Field	197	189	....	8	857,654	14,080,700	469	449	....	20	2,006,034	40,612,400
Rest of Eastern Texas	89	75	....	14	46,460	3,710,350	222	195	4	23	125,370	9,877,650
North Texas	245	134	2	109	28,792	2,102,250	528	272	4	252	51,107	6,002,250
South Texas	344	252	8	84	98,677	7,084,250	866	617	30	219	259,093	18,895,000
Corpus Christi	134	111	2	21	65,475	.....	346	272	5	69	169,830	.....
Laredo District	169	118	6	45	25,704	.....	421	289	25	107	76,585	.....
San Antonio	41	23	....	18	7,498	.....	99	56	....	43	12,678	.....
Texas Gulf Coast	116	86	5	25	33,644	6,419,100	292	206	13	73	76,846	17,300,500
Texas Panhandle	61	48	11	2	26,620	2,378,850	144	108	28	8	53,520	6,554,600
West Texas	254	211	3	40	278,998	6,391,550	580	499	5	76	828,056	16,894,450
West Central Texas	32	13	2	17	1,366	1,007,950	97	38	10	49	2,976	2,927,700
Wyoming	12	7	1	4	5,198	1,607,850	24	17	2	5	9,659	4,511,400
Total United States	2,463	1,654	229	580	2,052,601	105,248,300	5,970	3,980	569	1,421	5,083,326	295,393,400

* March completions cover not the calendar month, but the five weeks, or 35 days, ended March 27.

barrels. In February and March, with more liberal allowables prevailing, production was so high as to cause the running of about 7,000 barrels of crude into storage. Thus for the first three months of the year, there was a net addition of about 5,500,000 barrels of crude to storage.

Furthermore, the February additions to storage only about equaled the withdrawals of January. Consequently, the March additions of approximately 5,500,000 barrels represented the full margin by which the stocks were increased in the first quarter of the year.

April Allowables Stricter

Recognizing the substantial additions to crude storage in February and March, the conservation officials of the leading producing states effective April 1 prescribed considerably stricter allowables. Consequently, it apepars that the additions to storage will be largely eliminated this month.

For April the six leading producing states have combined allowables within 75,099 barrels of the daily output recommended by the Bureau of Mines. In March the same states exceeded the federal suggestions 171,742 barrels daily, in February 148,296 barrels a day, and in January 111,481 barrels daily.

These figures indicate that production in April will conform closely with the market requirements, as the allowables of January resulted in a slight withdrawal from crude storage.

Crude Stocks Conservative

Furthermore, the crude storage situation appears in a comparatively favorable light when it is recognized that the inventories are approximately 20,000,000 barrels lower than at this time last year. The total of 293,587,000 barrels of crude in storage March 27, this year, compares with 313,189,000 barrels on hand at the end of March, last year. While the stocks are lower, moreover, the demand is running higher, as previously pointed out.

Gasoline Stocks Reach Peak

Gasoline stocks finally began declining in the week ended April 3, after rising steadily to an all-time peak of 83,538,000 barrels on March 27. The turning point came a little later than last year, when the peak was reached March 21. The gasoline stocks of March 27, this year, were about 14 percent greater than those one year previously. This increase was largely, although perhaps not entirely justified, as gasoline demand lately has been running around 10 percent higher than at the corresponding time last year.

United States Drilling and Production in First Three Months of 1937 and 1936

STATE OR DISTRICT	WELLS COMPLETED			BARRELS OF CRUDE PRODUCTION		
	In 1937 (3 Mos.)	In 1936 (3 Mos.)	Percent Change	In 1937 (3 Months)	In 1936 (3 Months)	Percent Change
Arkansas	13	24	— 85	2,402,650	2,712,800	— 11
California	292	269	+ 9	52,997,500	55,659,450	— 5
Colorado	5	3	+ 66	360,100	370,350	— 3
Eastern States	741	725	+ 2	10,359,200	9,367,550	+ 11
Kansas	492	323	+ 52	16,025,800	12,987,200	+ 23
Louisiana	159	223	— 29	22,001,350	17,317,750	+ 27
North Louisiana	52	122	— 57	6,625,800	5,211,650	+ 27
South Louisiana	107	101	+ 6	15,375,550	12,106,100	+ 27
Michigan	194	162	+ 19	2,915,150	3,434,600	— 15
Montana	17	19	— 10	1,426,150	1,182,500	+ 20
New Mexico	164	108	+ 52	8,747,950	5,339,750	+ 65
Oklahoma	665	609	+ 9	54,581,600	46,091,050	+ 18
Southeastern States	6	3	+100	.....	.....	.....
Texas	3,198	2,644	+ 21	119,064,550	97,745,050	+ 22
East Texas Field	469	659	— 29	40,612,400	39,694,300	+ 2
Rest of East Texas	222	73	+204	9,877,650	4,325,350	+129
North Texas	528	468	+ 13	6,002,250	5,170,200	+ 16
South Texas	866	677	+ 28	18,895,000	*6,401,350	+ 39
Texas Gulf Coast	292	241	+ 25	17,300,500	*19,720,550	
Texas Panhandle	144	159	— 9	6,554,600	5,462,150	+ 20
West Texas	580	276	+110	16,894,450	14,683,550	+ 15
West Central Texas	97	91	+ 7	2,927,700	2,287,600	+ 28
Wyoming	24	11	+118	4,511,400	3,135,650	+ 44
Total United States	5,970	5,123	+ 16.5	295,393,400	255,343,700	+15.7

* Fields of Corpus Christi district, now included with South Texas, were shown in Texas Gulf Coast in 1936.

Wells Completed in the United States

(Including Oil Wells, Gas Wells, and Dry Holes)

MONTH	Daily Average
January, 1933	30.0
February	30.6
March	26.6
April	25.5
May	25.6
June	21.1
July	23.1
August	30.7
September	36.5
October	40.9
November	46.9
December	47.7
January, 1934	39.7
February	38.1
March	40.6
April	44.0
May	50.7
June	51.5
July	53.6
August	51.3
September	43.2
October	49.6
November	49.9
December	48.3
January, 1935	47.9
February	49.6
March	48.8
April	58.5
May	63.6
June	58.6
July	60.9
August	62.8
September	57.9
October	57.1
November	55.2
December	54.2
January, 1936	52.4
February	51.6
March	60.6
April	69.2
May	*71.9
June	70.9
July	66.6
August	70.4
September	65.4
October	67.8
November	67.7
December	67.7
January, 1937	66.1
February	58.6
March	70.4

* Highest since July, 1930, when completions averaged 76.6 daily. Average dropped in August, 1930, to 52.4 and remained below that figure until July, 1934.

United States Crude Oil Production

MONTH	Daily Average (Barrels)	Federal Estimate of Demand
March, 1934	2,339,950	2,282,800
April	2,420,950	2,366,200
May	2,575,380	2,366,200
June	2,588,100	2,528,300
July	2,560,550	2,530,300
August	2,475,300	2,449,300
September	2,431,950	2,341,700
October	2,364,150	2,325,800
November	2,375,400	2,340,300
December	2,414,600	*2,307,000 †2,460,300
January, 1935	2,500,850	2,460,300
February	2,521,250	2,526,100
March	2,568,800	2,520,300
April	2,559,750	2,527,300
May	2,601,350	2,561,200
June	2,695,100	2,651,000
July	2,707,150	2,660,000
August	2,676,250	2,600,600
September	2,737,750	2,613,000
October	2,780,850	2,554,200
November	2,825,900	2,563,700
December	2,826,850	2,540,200
January, 1936	2,818,300	2,559,200
February	2,774,450	2,648,100
March	2,828,750	2,738,900
April	2,914,600	2,797,300
May	2,976,053	2,826,300
June	2,953,908	2,838,300
July	2,950,522	2,917,200
August	3,029,550	2,936,900
September	3,020,308	2,864,000
October	3,038,132	2,842,300
November	3,020,033	2,870,300
December	3,109,585	2,930,300
January, 1937	3,173,390	2,998,400
February	3,277,728	3,068,600
March	3,395,106	3,159,000

* December 1-16.
† December 17-31.

Theory of Oil and Gas Accumulation By Retreat and Advance

By JAMES H. GARDNER, President,

KNOWLEDGE that salt water will prevent oil or gas rising to the surface is basis for entirely new theory that their accumulation is the result of the retreat and advance of the

THE writer has never been satisfied with the conclusion so long maintained in connection with the "Anticlinal Theory" that oil and gas fields have accumulated in an up-dip direction through water-carrier beds to their structural position. Knowledge of the facts in connection with the drilling of oil and gas wells under hydrostatic water-head in the wells and from simple experiments in the laboratory leads one to draw adverse deductions with respect to the old ideas of accumulation.

Salt Water Prevents Oil Rising

It is an established fact that a hole full of salt water in a well prevents the rise of either oil or gas to the surface of the water column. It is evident that the force of buoyancy of the lighter gases and fluids is overcome by capillary friction in the reservoir rocks. The same result may be demonstrated empirically by placing dry sand at the bottom of a test tube; then saturate it completely with light crude oil, cover it with a slight additional amount of dry sand and fill it with ordinary fresh water. No oil comes to the top of the tube and probably no length of time would cause it to do so in the slightest degree. It is permanetly locked in the sand beneath the water-head. With these facts before us, what are we to do but abandon the theory of oil accumulation up-dip through the water in a water-sand?

Moreover, artificial water-flooding of oil sands has demonstrated the driving force of water in pushing oil ahead of a water column in the down-dip direction as well as up-dip. It is a decidedly effective process in accumulating oil in reservoir rocks, as shown by actual practice. The question thus arises as to what extent water-flooding has ensued by natural processes in the earth's strata, and this brings the writer to the following deductions on which a greatly extended thesis might be written:

Water Drive Causes Accumulation

The salt-water table (top level of salt water in a carrier bed) has unquestionably retreated and advanced with orogenic movements of uplift and depression over wide areas. A major uplift increases the hydrostatic head at the point of uplift on the perimeter of a structural basin and this would start circulation through a carrier bed to any points of lower level. Conversely a regional subsidence in a basin would cause the water level to recede in a carrier bed down-dip from the sides of an uplift on its perimeter. How far may this process have gone in the geologic history of a sedimentary basin and what effects might be thus produced in oil and gas accumulation? The tectonics of any of the oil producing areas indicates that the retreat and subsequent advance of the connate salt-water table in a given sand, or carrier bed, may have been an extensive process. Basins may have risen to a degree that would drain the salt water out of sands to adjacent areas of lower levels, then later subsided to a level that would start a water drive up-dip to again fill the sand throughout the basin. This sort of process is a reasonable one to account for the driving influence of salt-water in accumulating oil and gas deposits ahead of it.

Water Recedes and Advances

Let us take, for example, the East Texas Embayment and its relationships to the Woodbine sand. At the close of Eagle Ford time (after deposition of the Woodbine sand), the Sabine Uplift and probably other sides of the embayment brought a large area to a considerable height above the sea and thus placed a strong hydrostatic head on the connate water in the Woodbine sand. Since water under such circumstances must seek its level, the result would be a receding down-dip of the salt water table in the sand. A lot of time then elapsed during which the Eagle Ford and Woodbine formations were truncated over and around the Sabine uplift. Then a depression occurred that again lowered the Sabine uplift to receive the unconformable over-ride and deposition of the Austin chalk and later deposits across the truncation. This event would cause the salt-water table to advance toward the previous uplift and refill the previously drained sand. Thus the orogenic movements would establish a salt-water drive. Oil and gas being pushed ahead of such a water-drive would reach any structural traps existing at that time just ahead of the advancing salt

Gas Accumulation of the Salt-Water Table

Gardner Petroleum Company, Tulsa, Okla.

salt water table as orogenic movements of uplift and depression took place, which would create a water drive and push the oil and gas ahead of it into existing structural traps.

water and become permanently trapped as oil and gas pools. Structures formed subsequent to a water drive would be relatively too young to receive accumulation. Furthermore, that portion of the Woodbine sand which lay higher up-dip than the level of the salt-water table would not receive accumulation but would remain drained of its connate water and be relatively dry until sufficient time elapsed to fill that portion of the sand with fresh water that advanced down-dip from the surface outcrop. The fresh water now in the Woodbine sand from the Powell-Mexia trend northwestward and northward to the outcrop is a case in point.

Calculations Made on Van Field

Ralph A. Liddle in his excellent and complete report on the Van oil field (University of Texas Bulletin No. 3601) has presented evidence to show that oil accumulation in that field took place during post-Austin and pre-Wilcox time. He believes also that the oil and gas are indigenous to the Woodbine formation and that migration ensued at about the same time all over the East Texas Embayment. Another interesting point brought out in his report is in showing that a portion of the previously oil-saturated sand in the Van field has, through removements of the structure, been placed below the salt-water level and now contains some oil and much salt-water over a specific area adjacent to the producing field.

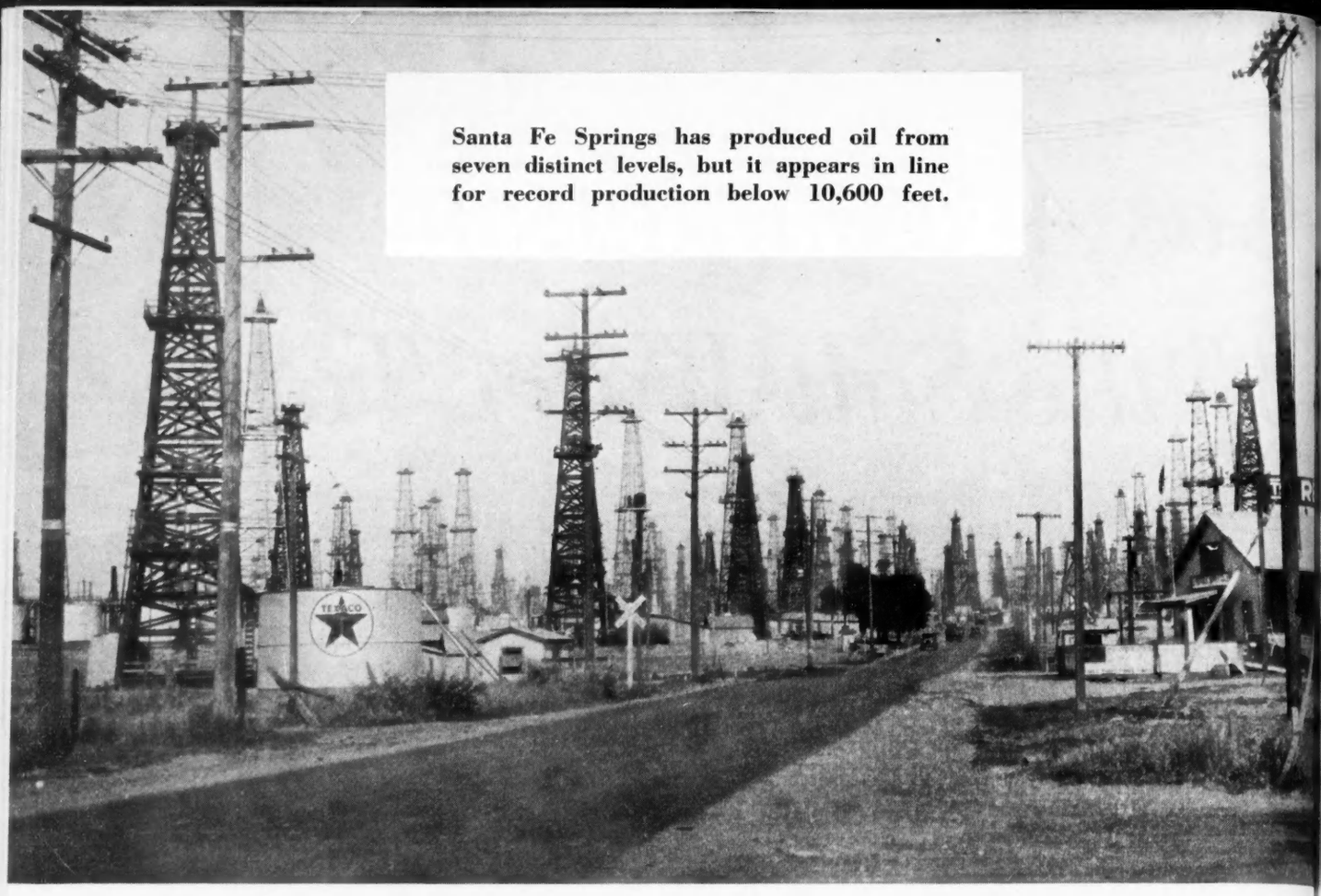
The regional structure map of the Van uplift as contoured on top of the Woodbine formation by Liddle (Plate 20, Bulletin 3601, University of Texas) covers an area nearly circular in outline with a diameter of approximately 25 miles. This figures out to be an area of 489 square miles, whereas the area of the oil field itself at the center of the regional uplift covers approximately seven square miles which is 1 to 70 in area of the oil field as compared to the outlying limits of the entire structure.

In considering a regional water-drive in pushing a long strip of oil ahead of a wide water front toward the Van structure, it is of interest to calculate what would be the necessary width of such an oil strip in order to fill the present oil field.

The regional Van uplift has a circumference of approximately 78 miles. This figures out that a strip of oil 464 feet wide in the entire pay-sand thickness around the entire perimeter, if concentrated to the center of the uplift, would cover the area of 7 square miles in the oil field. This calculation is based on the idea that an advancing water front from the basin side would close around the regional structure on the lowest contours before sufficient head pressure caused it to close in the circle and then rise to the top of the structure.

It is interesting to speculate on what happened to the oil that was not intercepted by structural features but traveled on ahead up-dip. This would have taken place on either the old theory of accumulation or on the water-drive theory. Where the water-table continued to the outcrop, such oil would possibly escape to the surface. But, where the water-table had a top limit, or where a wide regional over-lap crossed the sand, a long strip of oil accumulation should occur. It should meander with the contour line which defines the top of the salt-water table. If it were only 500 feet wide, it would be too narrow to be easily discovered and too crooked to follow in commercial development. But at points where structural uplift caused a notable side-drawing effect on concentration of the oil strip, commercial fields would result. But there is no rule by which to estimate the size of any newly discovered field before development; it would vary with the quantity of original oil to be concentrated in given localities on any theory of accumulation.

The origin of oil is still a vague question. But, assuming it as existing in a disseminated form and indigenous in the Woodbine formation, then salt-water drives based on orogenic changes in hydrostatic head offer logical explanations for the concentration of commercial oil supplies. It may have been an extensive and widespread process. Uplift and depression have succeeded each other in and around all the sedimentary basins where oil and gas fields are found. Unconformities testify to this fact all over the world and have long been suspected as having something to do in one way or another with accumulation. But the natural water-drive theory by retreat and advance of the salt-water table has apparently not received its merited attention.



Santa Fe Springs has produced oil from seven distinct levels, but it appears in line for record production below 10,600 feet.

ECONOMIC ASPECTS OF

Deep Drilling Are Far Reaching

THE economic aspects of deep oil development are so far-reaching that they touch every phase of industrial life. Growing rapidly from the axle grease and kerosene period, current demand for all types of petroleum products is being met largely from depths regarded as fantastic only a few years ago.

Development and production of oil at 9000 and 10,000 feet represent a complex effort. It is the result of a short evolutionary period that has few equals in American industrial history. The trend toward deeper production was forced by the inadequacy of shallow producing areas that yielded an excess of oil during their flush periods, and by the natural desire to explore every level that fell within the range of equipment and methods.

The perspective of the oil producer and equipment manufacturer has changed since 1920. Seventeen years ago a 4000-foot oil well was front page news, and nobody was bold enough to predict the completion of a 7000-foot producer. Talk of drilling to depths of 10,000 and 12,000 feet branded a man as unfit for the realities of that day. The 8000-foot well was regarded as a remote possibility, but attainment of greater depths was hardly considered by the conservative engineers of the post-war period.

It is true that the best engineers, geologists and executives were blinded by the limitations of equipment and methods of 1920, just as they may be blinded today by present limitations. It always has been impossible to see accurately ahead, and the future can be judged only roughly by progress of the past.

Industry Assumes New Position

The fact that the 10,000-foot producing well is here stands out as proof that the oil industry has assumed a new position. The comparative ease with which the five-figure depth is reached definitely places a new value on all producing districts that have great thicknesses of favorable sediments. The recent completion of very deep producing wells in two major districts

By BRAD MILLS, Associate Editor

resulted in a wild rush to obtain leases that had been quit-claimed because of unfavorable developments in shallower formations. The change in the status of at least three large producing districts alone is enough to place a new valuation on leases looked upon with disfavor under the old development regime.

Deep drilling has given a new conception of oil reserves. Until quite recently there were no known oil reserves below 5000 feet, a depth that now only marks the beginning of serious drilling efforts. The entire production scheme has changed to throw the bulk of new reserves well below the 5000-foot level.

If it had been possible to place a barrier at a depth of 5000 feet, the United States would now be unable to supply much more than half of its petroleum requirements. With few exceptions all major discoveries of the past six years have been below 5000 feet. This level is used as a dividing line because it was regarded 20 years ago as the maximum depth at which oil could be produced under methods in vogue at that time.

The importance of deep discoveries shows to greatest advantage when the history of development is considered. Geologists suspected the presence of oil as long as 30 years before it was discovered in several major fields. The Kettleman Hills structure showed plainly at the surface, yet some of the best leases changed hands for a mere pittance only a short time before the discovery well was completed. The discovery of oil in this field immediately raised the value of land from a few dollars per acre to $10,000.

Deep drilling alone was responsible for the discovery of Kettleman Hills, unless geology deserved a part of the credit. The first tests were drilled more than 20 years before oil was found, but they were abandoned as little more than "post holes" when compared with the producing wells of today. The average depth of the abandoned wells drilled on the structure was less than half that of the completed producing wells. Each abandonment reduced the valuation of leases, but deeper development was not to be denied. The field was added to the producing column when necessity forced the issue and drilling technique advanced to meet the challenge.

The principal hope for new reserves in California and along the Gulf Coast lies in the very deep formations. Development has been changed to meet conditions, and drilling to 10,000 feet is no longer a novel achievement.

Development Cost Is Greater

The greater development cost must be considered in future oil production. If it becomes increasingly difficult to find new oil fields, the cost must be passed on to the consumer in the form of higher prices. If the deep development program results in a flood of oil, consumer prices will be lower than those now prevailing. Supply and demand act as a governor against one another over a long period, and it is likely that price fluctuations will be less violent in the future than in the past.

The cost of finding a barrel of oil probably is higher today than it was 35 years ago. The tremendous additions to reserves by such fields as East Texas and Conroe afforded a big boost at low cost, but most of the major fields are found with greater effort and expense.

Deep development is very vital to a future supply of cheap petroleum products. Experience of the past few years has proved that the bulk of flowing production must come from deeper formations. A high percentage of flowing production is needed to assure a stable supply of cheap crude oil.

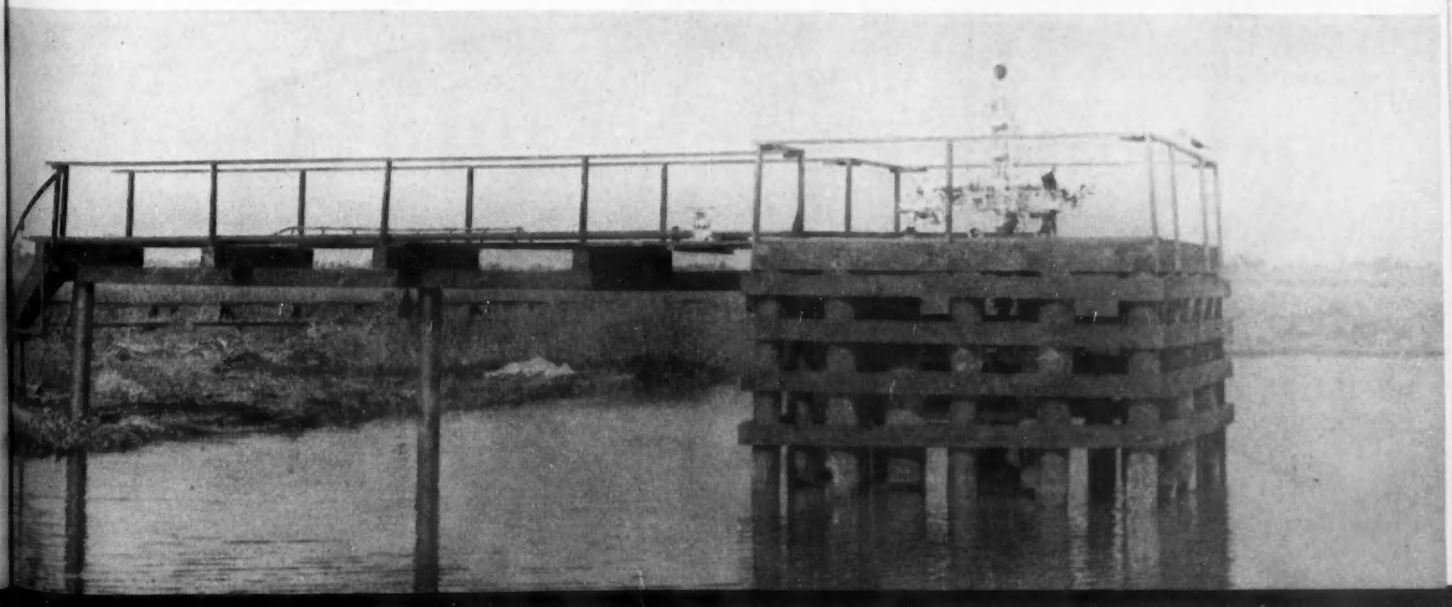
It is possible but not probable that other comparatively shallow fields on the order of East Texas will be found. Only once in a generation should such a field be expected. To equal the East Texas reserve it will be necessary to discover a dozen deeper fields. The occasional discovery of a shallow producing district has not lessened the possibilities of the deeper formations.

The development of a drilling technique that permits drilling to 10,000 and 12,000 feet has not been occasioned by vanity alone. The fact that 10,000-foot production has been obtained in two major producing districts proves the wisdom of the hopes of a few years ago.

Gulf and West Coast Favored

Both the Gulf Coast and California offer unusual opportunities for production of oil at depths below 12,000 feet. The sediments are favorable even to much greater depths, and by 1942 the 10,000-foot producing well will be no novelty.

In the Ventura Avenue, California, field the favorable sediments extend to a depth of at least 22,000 feet. It does not follow that such a depth will be attained, or that production will be found in the event it is attained. The tremendous thickness of sediments that carry oil elsewhere in California offers the Ventura Avenue operator an almost limitless



The Texas Company's L. L. E. Lafittee 5, Bayou St. Dennis, held the depth record for a short time last fall. Completed at 9974 feet, this well was drilled with a submersible barge. The heavy crib protects the Christmas tree. Since then two 10,000-foot oil wells have been completed in this South Louisiana field.

field for experimental drilling. This field already holds the depth production record, but much deeper production may be developed. The thickest known Pliocene deposits are found in this field. Drilling starts in this formation, and at 10,560 feet the Pliocene is still present. There are many reasons to believe that the Miocene formation immediately below will prove productive. The chance for development of new production at Ventura Avenue apparently depends only upon the ability of operators to reach greater depths. Tide Water Associated Oil Company completed its record well with ease, and this field probably will be in the contest for new records in the future.

The future importance of the Los Angeles, California, basin depends on the success of deep drilling operations. From an economic standpoint, this declining area may be restored to a dominating position by discoveries below any depth yet attained. The discovery of a major producing field above 5000 feet certainly would be a miracle. This famous producing area looks most promising when the deeper formations in the old fields and the very deep formations in wildcat sectors are considered. In either case deep drilling will be the weapon of attack.

Deep Development Along Gulf Coast

The Texas and Louisiana Gulf Coast owes its present activity and a large part of its importance to deep development. Shallow tests are not considered in this territory. The great coastal strip is potentially one of the greatest oil reserves in the world, as evidenced by recent discoveries between 6000 and 10,000 feet. The search for new fields has become so widespread that depths greater than 12,000 feet are considered in all current leasing and drilling programs. Production of oil is possible at much greater depths than may be reached with present equipment and methods. This is one of the few producing districts that has no practical limits. Formations encountered at 12,000 and 14,000 feet definitely fall in the promising group along the Louisiana coastal strip, and 10,000-foot production has become a reality in the Bayou St. Dennis, Louisiana, field, in the heart of the Mississippi delta district. Much deeper production in this field is a possibility. Production below 10,000 feet also has been developed in the Old Ocean, Texas, field, a product of the Gulf Coast.

The old shallow producing areas that proved barren in the deeper formations contrast sharply with the producing districts that yield both shallow and deep production. Development on a large scale can be carried on only where a reasonable hope for new and flowing production exists. Most of the shallow producing areas have been extensively tested, with the possible exception of Kansas, West Texas and New Mexico. Some of the most prolific producing districts have been those that produced from more than one level. The deeper development of old producing districts offers a greater opportunity to increase production than shallow drilling in districts that hold no promise at great depths.

Makes Wildcat Work Expensive

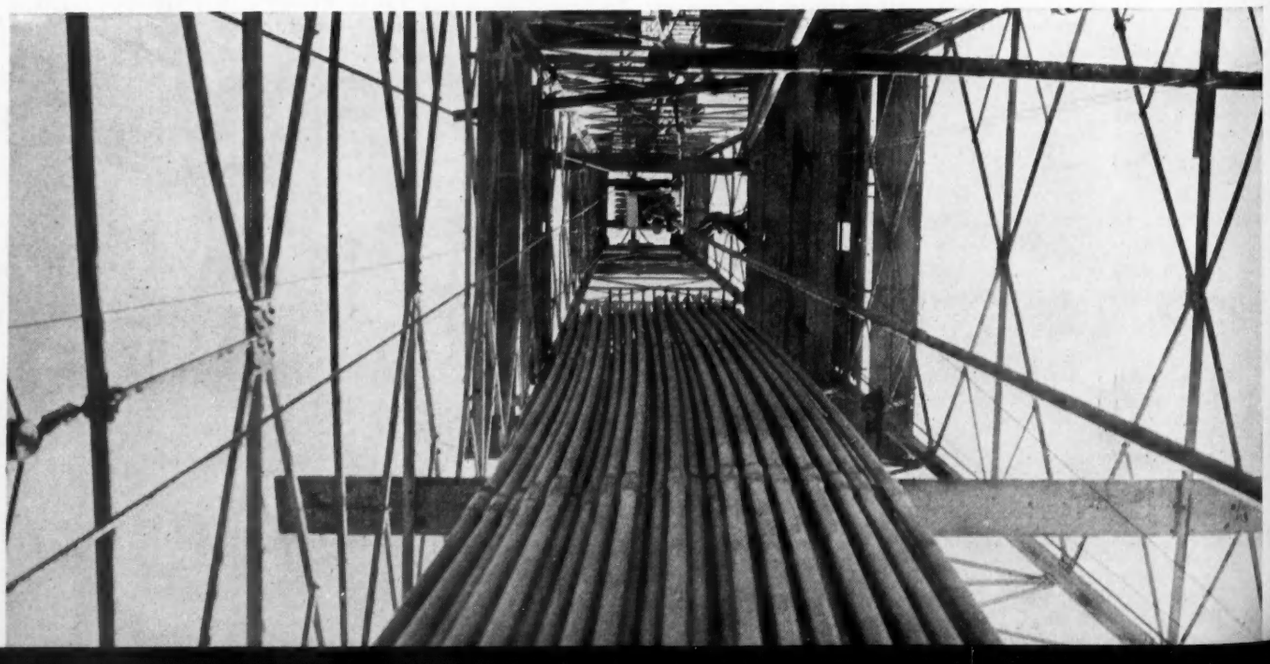
The cost of drilling to 10,000 feet stands as a barrier to many operators who otherwise have the inclination. The cost of drilling a wildcat well to such a depth usually is greater than that of a well drilled in a proven field. The reverse should hold true, however. No way has been found to drill the first hole cheaper than subsequent tests. This question recently was raised, and it was suggested that some type of less expensive exploratory hole might be drilled to test the oil possibilities of wildcat districts.

Many small operators have failed to discover fields because of the high cost of wildcatting. Major companies in several instances have completed discovery wells on acreage originally held by smaller operators. This has been especially true where the objective depth was excessive.

If the demand for oil increases and the supply dwindles, a less expensive method of testing 10,000- and 12,000-foot formations may be developed. Under the current system of drilling, it would be practically impossible to save a makeshift discovery hole. Such an improvised attempt also might damage the producing formation in an entire field. It is largely the desire to meet unknown conditions that prompts the drilling of an expensive wildcat. Theoretically a small test hole appeals to an operator, but actually it does not appear practical.

Deep development now under way will in the next year give a good clue to the future reserve situation. The average producing depth in every major district is becoming deeper. World consumption of petroleum products is much higher than ever before, and only development of deep formations can meet these increasing demands.

It takes a lot of pipe to reach to the bottom of a 9749-foot hole. Over 9400 feet of 4-inch drill stem is shown in this picture which was taken while 2½-inch tubing was being run in Shell Petroleum Corporation's Sturdevant 1. This test gives promise of opening a new oil producing area at South Roanoke, in Jefferson Davis Parish, South Louisiana.



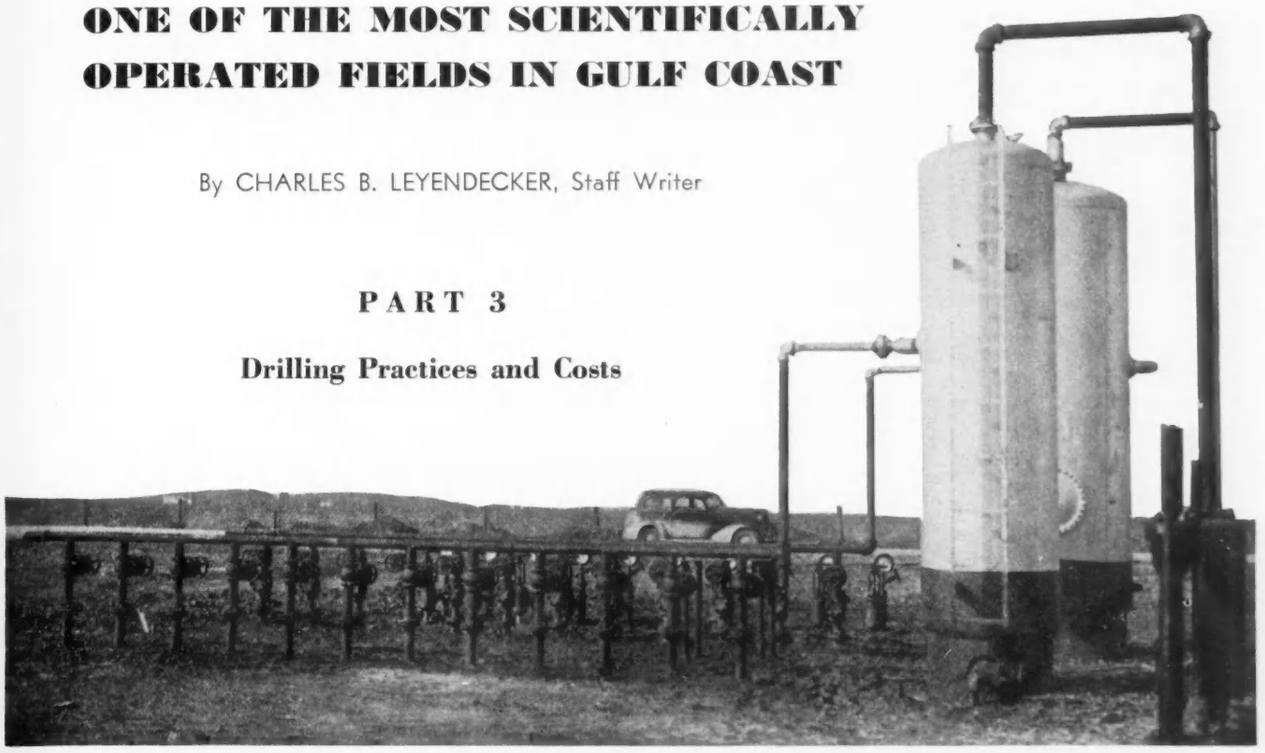
A Trip to Anahuac

ONE OF THE MOST SCIENTIFICALLY OPERATED FIELDS IN GULF COAST

By CHARLES B. LEYENDECKER, Staff Writer

PART 3

Drilling Practices and Costs



Two gas-oil separators are located at each battery of tanks and as many as 19 wells are hooked into one group of tanks. Note the number of wells connected to these separators.

ANAHUAC was discovered March 16, 1935. In two years it has developed into the largest field in area in the salt dome belt of the Gulf Coast. The field is of interest not only because of its size, but due to the use there of the most modern principles of producing and development engineering known.

Part 1 of this article, which appeared in THE OIL WEEKLY March 22, 1937, its early history and development were discussed. Part 2, March 29 issue, described geological features. This article is devoted to operating practices.

Rules passed by the Texas Railroad Commission for well spacing became effective in Anahuac May 8, 1935. The commission stated that one well could be drilled to every 20 acres and that wells should be drilled 466 feet from lease lines and 933 feet apart. The allowable for the field was to be based on both acreage and potential, with a maximum allowance of 25 acres to any one well. The field has been developed in this manner, with a few exceptions. The commission ruled May 8 only on the oil string, requiring that it be set at the top of, or slightly below the top of, the oil horizon. The casing program, which will be discussed later, was more elaborate on the first few wells than at present.

Largest in area of any salt dome field in the Gulf Coast, and among the leading producing and crude oil reserve areas, the Anahuac field is of economic interest. Enhancing the importance are the modern scientific operating methods being employed. The accompanying discussion is the third part of a series. Other installments will appear in early issues.

A proration schedule issued June 21, 1936, showed there were 89 wells at Anahuac making a daily allowable of 6882 barrels, or an average of 77 barrels per well. The largest allowable given for any one well was Humble Oil & Refining Company's White 7, which was 88 barrels daily. At this time the proven acreage amounted to 1780 acres, considering one well to each 20 acres. The daily potential for the field through a quarter-inch choke was estimated at 55,468 barrels.

The October, 1936, schedule for allowables showed 121 wells, and each was allowed to produce 63 barrels daily, or an allowable for the entire field of 7756 barrels per day. The lowest allowable for the field was issued on November 1, 1936, when the field was cut to 56 barrels per well, or a daily allowable for 126 wells of 7088 barrels.

December 1, 1936, a new allowable increased the field to 8652 barrels daily. Each well was allowed to produce from 40 to 74 barrels daily, according to what a 24-hour potential test showed through a quarter-inch choke.

The average daily allowable per well at Anahuac is around 63 barrels. Allowing one well to produce 63 barrels daily on a 20-acre unit gives the operators

TABLE 6

Proration Schedule of Anahuac, January 1. 1937

ALLOWABLE	LEASE	No. Wells Productive	Proven Acreage	Potential	Lease Allowable
Humble Oil & Refining Co....	E. W. Boyt	1	20	668	67.78
Humble Oil & Refining Co....	J. E. Broussard	7	140	4,558	468.23
Humble Oil & Refining Co....	Clark	11	240	6,699	409.65
Humble Oil & Refining Co....	H. A. Gripon	6	120	3,281	710.41
Humble Oil & Refining Co....	M. H. Engles	9	180	5,980	608.35
Humble Oil & Refining Co....	C. A. Lord	2	40	1,221	129.45
Humble Oil & Refining Co....	C. G. Johnson	3	60	1,504	176.70
Humble Oil & Refining Co....	H. E. Marshall, Jr.	3	60	2,016	203.99
Humble Oil & Refining Co....	Middleton Acc. No. 1	17	340	10,977	1100.78
Humble Oil & Refining Co....	Middleton Acc. No. 2	3	60	1,794	192.18
Humble Oil & Refining Co....	Middleton Acc. No. 3	1	20	576	62.89
Humble Oil & Refining Co....	Middleton Acc. No. 4	1	20	341	50.40
Humble Oil & Refining Co....	Mittleton "B"	1	20	287	47.53
Humble Oil & Refining Co....	A. B. Shaver	2	40	879	111.28
Humble Oil & Refining Co....	W. C. Tyrell	10	200	6,826	685.58
Humble Oil & Refining Co....	White	15	300	7,659	844.06
Humble Oil & Refining Co....	R. M. White "B"*	5	100	1,910	247.08
Humble Oil & Refining Co....	G. C. Wilcox	3	60	1,919	199.01
Humble Oil & Refining Co....	Zappe	5	100	3,231	333.13
Gulf Oil Corp.	Knowles	2	40	1,173	126.91
Gulf Oil Corp.	Pommer*	1	20	691	69.01
Sun Oil Co.	M. White	1	20	265	46.36
Sun Oil Co.	White	23	460	15,195	1541.30
Total		139	2780	83,307	8800.00

* Increase over December, 1936, schedule.

around three barrels daily recovery per acre each day from the 20-acre tract. Humble Oil & Refining Company had 110 wells producing approximately 6,912 barrels daily or approximately 63 barrels per well. Gulf Oil Corporation had two wells making 127 barrels daily, and Sun Oil Company 24 producing wells making 1583 barrels daily or approximately 66 barrels per well. Humble Oil & Refining Company had three barrels less production per well than Sun Oil Company because the former company had drilled more tests. Humble Oil & Refining Company's White 7, J. McGahey Survey, had the highest allowable of any well at Anahuac, 74.22 barrels daily. On a 24-hour potential test through a quarter-inch choke it made 788 barrels. The December schedule showed the acreage allowable to be 32.35 barrels and the potential allowable was 41.88 barrels.

82,000 Barrels Through Choke

If all the wells at Anahuac were allowed to flow for 24 hours through a quarter-inch choke, and with no proration regulations, the field probably would produce in excess of 82,000 barrels daily. No estimate has been made as to how much oil the field would yield on an open flow test per well. The field is now producing about one-tenth of what it could produce if the wells were allowed to flow through a quarter-inch choke. Considering that each productive well at Anahuac proves up 20 acres there were proven at this time around 2720-acres. The potential factor in figuring allowable December 1, 1936, was .053152 barrels and the acreage factor was 1.61698.

In drilling 47 wells from June 1 to December 1, 1936, the allowable was decreased 14 barrels per well, but the daily allowable was increased 1770 barrels for the field.

On January 1, 1937, three new oil wells were added to the list of producers at Anahuac over that of December 1, 1936. The three new producers were on Humble Oil & Refining Company's R. M. White "B" lease and Gulf Oil Corporation's Pommer tract. Two producers were completed by Humble Oil & Refining Company and one by Gulf Oil Corporation. Considering that one oil well proves up 20 acres, then at the beginning of 1937 there were 2,780 acres proven, and from the 2,780 acres 8800 barrels of oil daily was allowed to be produced. There were 139 oil wells producing oil on January 1, 1937. Listed in Table 6 is the January 1, 1937, proration schedule for Anahuac field.

Drilling Practices and Costs

Humble Oil & Refining Company, Sun Oil Company and Gulf Oil Corporation have taken every precaution to develop Anahuac in an orderly manner. Drilling is as systematic as clock work. There are seven rigs active at Anahuac field. Humble has four; Gulf Oil Corporation, two, and Sun Oil Company, one. Humble, for instance, while drilling on four wells always has two other locations ready for rigs. Two derrick are installed by the company rig builders in two days, slush pits are dug with drag lines in 16 hours, 2½-inch water line laid to canals and 2½-inch gas lines connected. Derrick foundation is dug by hand, and a board road is laid. No time is wasted moving to the next location. If the well is completed at night, by the next day the rig has been moved to a new location and the hole is spudded in. The average time for completing wells at Anahuac—spudding in and flowing oil into the battery of tanks—is only 16 or 18 days. Earlier it took operators from 35 to 40 days. Surface casing is set and cement allowed to harden 36 hours. After the oil string has been set at about 7040 feet the crew drills cement plugs 42 hours after the setting. Crews drill from 750 to 1000 feet a day. Humble carries three crews for every rig, each working eights hours a day. A relief crew is also maintained to keep the rigs running 24 hours a day. The crew works four days a week for one week and the next week they put in five days.

The above three operators are drilling their own wells. The estimated cost of drilling wells at Ana-

TABLE 7

Analysis of Drilling Costs at Anahuac Field*

Lease Investment:	
Rental on Derrick (construction)	$ 650.00
One 3 x 11 ft. oil and gas separator	300.00
Two 500-barrel storage tanks (includes battery)	900.00
Complete Christmas tree assembly	700.00
Approximately 1500-ft. 9⅝ in. surface casing	3,000.00
Approximately 7040-ft. 5½ in. 34.80 pound, oil string	9,200.00
Hauling casing to location	250.00
Approximately 7040-ft. of 2½ in. tubing at location	2,500.00
About 100-ft. 3½ in. liner and 50 ft. of 3¼ in. screen at location	200.00
Miscellaneous	1,770.00
Total Lease Investment	$19,470.00
Drilling:	
Labor and Insurance	$ 2,700.00
Hauling	250.00
Supplies and maintenance of equipment	3,000.00
Bits	200.00
Cementing	500.00
Water	250.00
Depreciation of drill pipe and machinery, etc.	3,100.00
Gas fuel	500.00
Miscellaneous	1,500.00
Total Drilling Cost	$12,000.00
Total Lease Investment and Drilling Cost	$31,470.00

* Wells drilled to 7080 feet.

A CHEST PROTECTOR ON THE AUTO SKOOTER STEPPED UP SALES AND SAFETY

A typical example of Goodrich development in rubber

● Sales were down at the Auto-Skooter booths in amusement parks. The modern youngster demanded more speed and thrill when he sent his miniature electric car hurtling into his fellow riders.

But allowable impact was limited by strength of the huge steel spring around each car.

Steel could stand no more — but rubber could. So the 1936 model of skooter is equipped not with steel but with rubber—a wide strip of it—which permits greater speed and heavier impacts with safety to equipment and delight to the young customers.

One more proof that rubber, as Goodrich knows how to compound it, can often stand more punishment than the toughest steel.

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huac to 7080 feet runs between $30,000 and $32,000, or around $4.44 per foot (See Table 7). The 155 wells completed at Anahuac field through January 1, 1937, are estimated to have cost approximately $4,877,000. There had been an estimated 1,099,000 feet of hole drilled up to January 1, 1937.

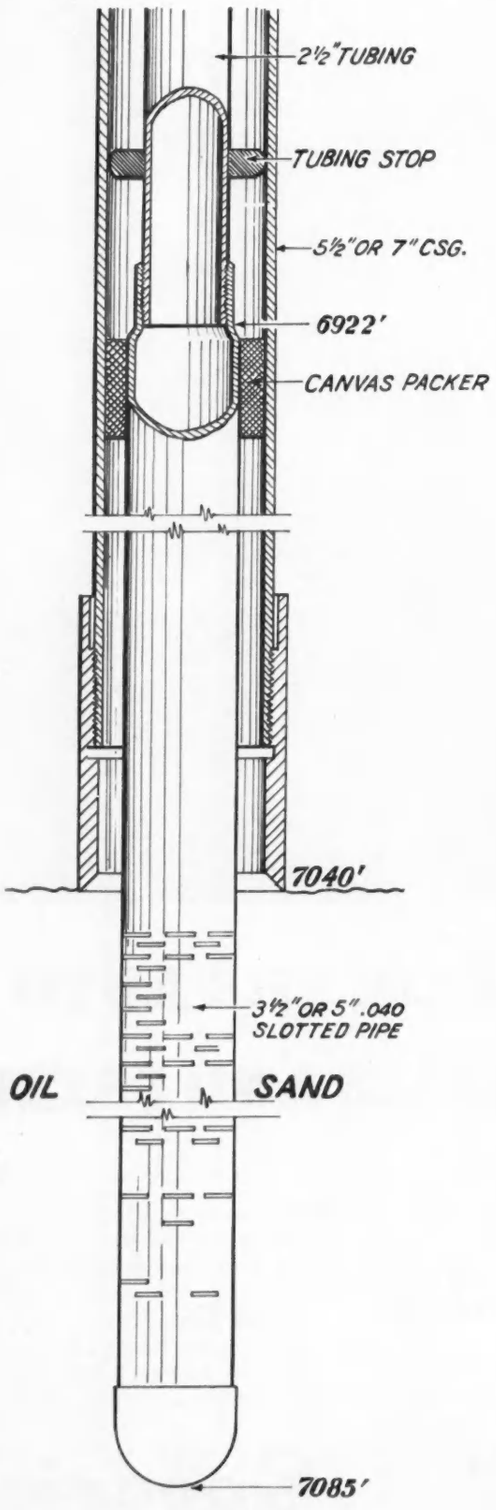

FIGURE 9

Systematic drilling and completion employed by Humble Oil & Refining Company has saved money and time and permitted development of the field in a conservative manner.

After spudding, 1500 feet of 9⅝-inch, 34.80-pound, Grade "C," welded surface casing is set. Usually 7040 feet of 5½-inch O. D., 17-pound, Grade "C" casing is set for the oil string. In the first few wells at Anahuac, Humble Oil & Refining Company set 20 feet of 16-inch welded casing for conductor pipe. After drilling to about 2000 feet, a string of 10¾-inch, 40.50 pound surface casing was cemented. When oil sand was encountered around 7040 feet, a string of seven-inch, 26-pound, Grade "C" casing was set. As the operators became more familiar with subsurface conditions, conductor pipe was eliminated, and finally, for economy, a 5½-inch oil string was set on top of the sand.

Coring Procedure

Coring usually is started at around 6900 feet on questionable wells, at around 7000 feet on other tests. After the gas sand has been penetrated, the hole is cored down to the main oil sand (Frio). Finding the gas/oil contact at about 7040 feet, the hole is carried on down to 7080 feet. An electrical logging device which has played an important part in studying the porosity and resistivity of the sands, is then run, and after this log has been studied a string of 5½-inch casing is cemented on top or just below the gas/oil contact (See Figure 10).

Prior to drilling cement plugs in the 5½-inch casing, surface connections are hooked up and separators and storage tanks installed. After surface equipment is ready the cement plugs are drilled with 3½-inch drill pipe in the casing, and approximately 6922 feet of 2 or 2½-inch tubing is run to the top of the regular canvas packer about 118 feet above the oil sand. A tubing stop is run with the tubing so that there will be no chance of dropping the string. There is an average of 45 feet of .040 gauged screen set (See Figure 11).

Completion practice at Anahuac is about like that at Conroe, Montgomery County. Weight of mud is lightened by washing with fresh water. After it has become light enough, gas pressure under the mud starts pushing the fluid out of the hole, and the producer comes in under control. Swabbing is practiced only on flank wells where gas pressure is not strong enough to lift fluid out of the hole.

Handling High Gas/Oil Ratios

If wells are completed with a high gas/oil ratio, the screen and liner are pulled and a blank liner set and cemented through the producing horizon. The blank is then perforated opposite the oil sand and the screen reset. This method has proved very effective in correcting high gas/oil ratios.

Two hydraulically operated blowout preventors are installed after the 9⅝-inch casing has been cemented at 1500 feet. One of the preventors is used as an auxiliary in the event the other fails. The preventors are not removed until the oil string and screen have been set. This is made possible by using equipment which allows them to be flanged directly to the casing head and the inner casing string run and landed without moving the two 5,000-pound test preventors. An 8 × 8 × 5½-foot deep cellar is required for blowout preventors, a 6 × 3 × 6-inch pump con-

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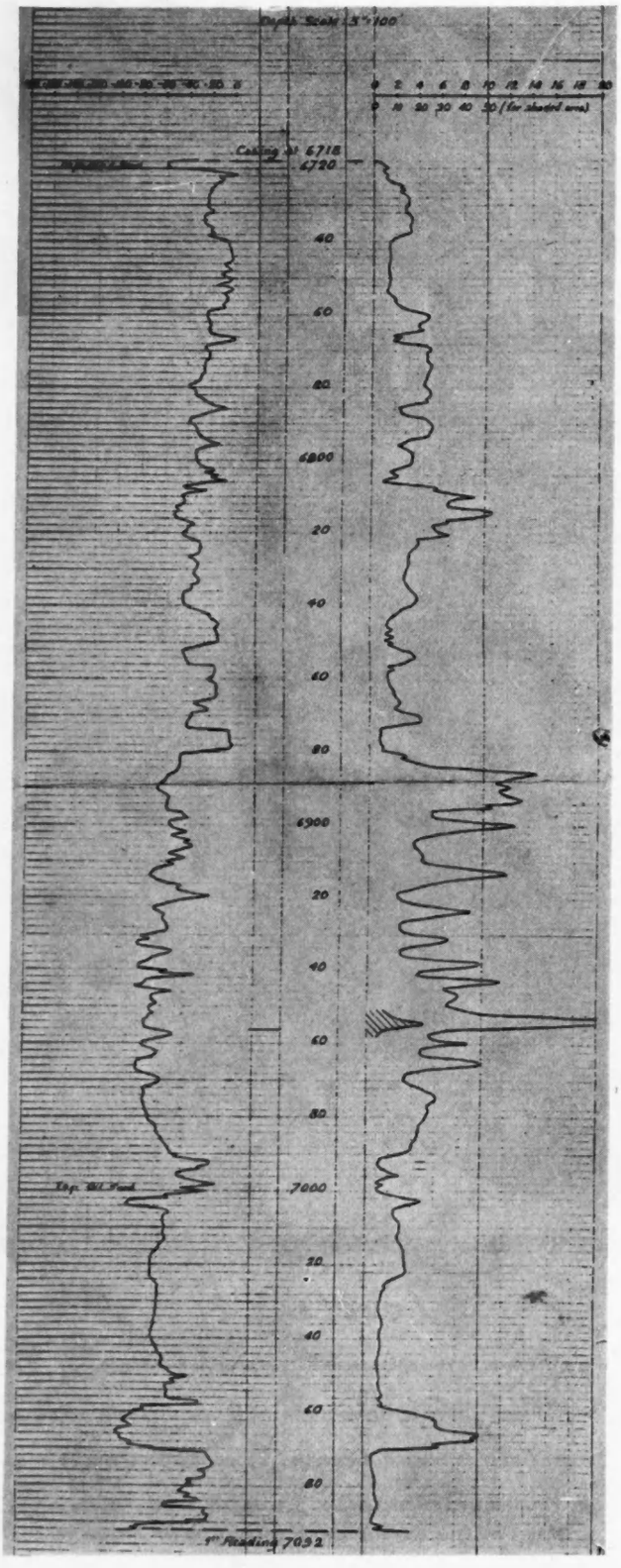

FIGURE 10

Electrical log of producing horizon at Anahuac.

nected to the blowout preventors is located on the derrick floor. A 3 × 2½-inch one wing, 5,000-pound test Christmas tree is installed after the well is ready for completion.

Drilling at Anahuac in several instances has been found very easy. Not much trouble has been encountered with formations. Drilling mud control has been limited in the majority of cases to water thinning. The formations drilled make a good natural mud of from 9.5 pounds to 9.8 pounds per gallon, having a funnel viscosity of 35 seconds without the addition of chemicals or weighting materials. One well drilled with the use of oil instead of drilling mud was found to be successful. This method of drilling is still in an experimental stage at Anahuac.

All wells at Anahuac are flowing naturally. A few edge wells are occasionally being reworked, due to salt water encroachment, but they still flow naturally. It is the practice of the three operators to remove derricks after wells are completed and to install a fenced-in christmas tree. The only derricks seen in the area are those being used in drilling. A casual passerby would not think that Anahuac field is the biggest field in the salt dome belt if he judged by the derricks, as there are only six to eight rigs active in the area.

Wells in the field are producing through tubing and small chokes, or on positive chokes. Each is allowed to flow 63 barrels per day.

Equipment used in drilling includes steel derricks 122 feet high, with a 24-foot base and a 7-foot steel sub-structure; a 72-inch, five sheave, roller bearing traveling block, and corresponding crown block; a 7½-inch O. D. roller bearing draw works; 27-inch rotary table; six-inch swivel, 4½-inch drill pipe; two slush pumps of 6 × 12 × 18 and 15 × 7¾ × 20-inch size which are controlled from the derrick floor; and two 125-horsepower boilers with two 7 × 4½ × 10 boiler feed water pumps.

Water and Gas Supply

The field is supplied with water from Lone Star Canal Company's rice farmers canal, which runs through the heart of the area. From the canal, water is pumped through lines to a ditch 20 × 20 × 3 feet next to the well. Small pumps are used to pump and carry the water to the rig. A water supply ditch is always dug around new locations, and if a well is located next to the canal water is pumped from the canal directly to the well. Water from the Trinity River below the town of Liberty is carried from the river by locks and then is raised over a highway by means of pumps and artificial ditches. From this same ditch or canal the water used at the Humble Oil & Refining Company's camp is obtained. Water cost at Anahuac for completing wells is approximately $250.

Gas from completed wells is used to drill other wells at Anahuac. This fuel goes into a separator and then into a centrally located system from which it is distributed through 2½-inch lines through each lease. A pressure of from 80 to 120 pounds is maintained in the system. The average cost of gas fuel in drilling wells to 7080 feet at Anahuac runs around $500. Humble Oil & Refining Company has an 8-inch gas line from the field that makes it possible to sell gas to industrial consumers in Houston, Beaumont, Port Arthur, Port Neches and other points where large amounts of gas are used.

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Acid Loosens

EVER since rotary drilling has been used in the oil fields, drillers have had to contend with stuck drill pipe. Until very recently, the only methods of loosening such pipe have been by brute strength alone and by the circulation of cold or hot oil. Many such attempts have been unsatisfactory since they made matters worse than before and resulted in junking of the hole. It has long been known that certain acids are capable of dissolving both the metal in the drilling equipment and the formation in which the tools may be stuck, but such treatments until recently have always been of a purely experimental nature on the part of the driller or well owner and have never developed into a regular drilling practice. This was true even up to as late as 1934.

The advent of acidizing as a regular production practice in the oil fields has made available to the industry large quantities of suitable hydrochloric acid together with equipment to transport it to the well and pumps capable of introducing it into the well against high pressures. Originally intended only for treatment of producing wells for the purpose of increasing production, the use of acid has now become a standard drilling practice in cases of emergency.

Hydrochloric acid will not react with sand, however, so that the use of acidizing to loosen pipe is limited to cases in which limestone is causing the trouble.

Treatments are not made to eat up the pipe, but rather to eat up the formation holding the pipe or the boulder or cuttings that are wedging the drill pipe in the well. In fact, precautions must be taken to prevent any reaction on the steel pipe.

Better grades of steel and better design have eliminated much of the original difficulty, but stuck drill pipe still is a problem. A study of wells in which drill pipe has stuck shows that each well is an individual case, and each case has its own particular explanation.

However, the reasons why drill pipe sticks can be classified into three major divisions. In some cases the pipe may get stuck in withdrawing it from the well due to a boulder that may have fallen in, or cuttings that settle due to faulty mud. In other cases the formation may have squeezed, thereby reducing hole size and sticking the pipe. Other stuck pipe jobs are caused by mechanical troubles including twist offs.

A boulder falling into the hole on top of the bit should not hinder drilling nor circulation, but is quite apt to stick the pipe when the pipe is pulled up. (Figure 1.) This same thing may be caused by clay balling up around the pipe just above the bit. Occasionally, the formation being drilled will not break down into particles which can be carried away by the drilling fluid and these large particles will settle around the bit, wedging it in the hole when the pipe is withdrawn. This may happen when the bit goes out of one formation into another that drills entirely differently. Sometimes stuck pipe jobs are blamed on the mud which was incorrectly mixed and consequently could not carry sufficient cuttings.

In some areas, the formations seem to be pliable and will "squeeze" (Figure 2). If the well is drilled down through such a formation, very often the formation will have "squeezed" to such an extent that it is impossible to pull the bit up through this particular section of the hole.

The occurrence of mechanical difficulties explains many cases of stuck pipe.

The cutters on a reamer have been known to come loose and lodge at a peculiar angle across the hole as the pipe was going in. Sometimes it is the bit that breaks. In another case, it is thought that a bad leak developed in the string of drill pipe with a result that all the rotary fluid being used in the well did not circulate to the bottom of the pipe, but part of it went only down to the point of leakage and then returned to the surface. The cuttings were, therefore, not removed from the well and eventually the pipe stuck itself.

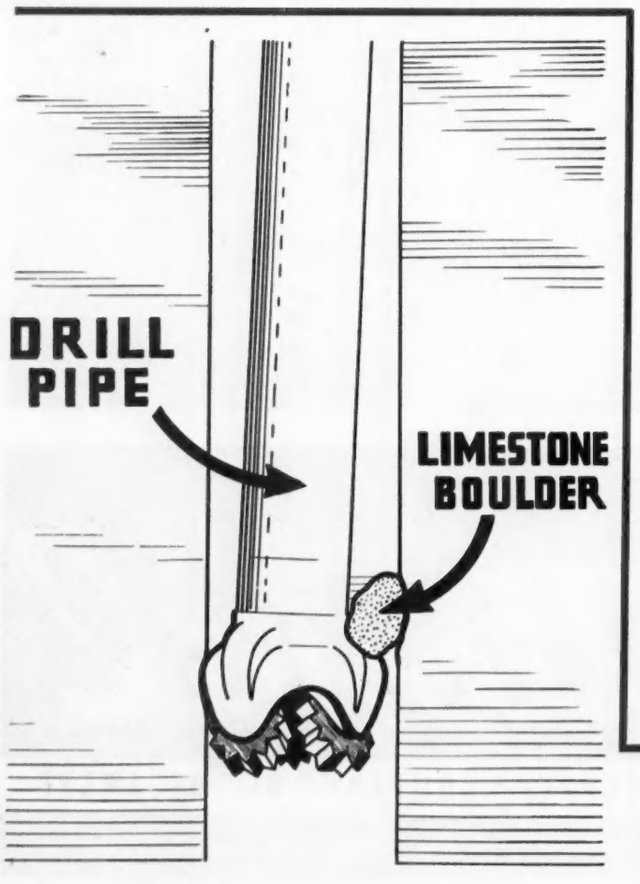

FIGURE 1

A boulder falling into the hole on top of a bit may not hinder drilling or circulation, but is apt to stick the drill pipe when an attempt is made to come out of the hole.

Successfully Stuck Drill Pipe

By JOHN G. STAUDT, Assistant Manager,
Dowell Incorporated, Tulsa, Oklahoma

Many times engines break down, boilers have trouble, or fittings on the steam line break. As a result all machinery must stop and the cuttings in the hole settle around the bit, sometimes sticking the pipe.

By far the largest majority of stuck drill pipe cases which can be attributed to failure of mechanical equipment follow a twist off of the drill pipe. Drill pipe will sometimes twist off if boulders fall in on the bit, if the bit drops into a crevice or small cave, if the bit is badly out of gauge allowing the tool joints to bind in the hole, if a sharp bit is run into a tight hole, and if the pumps or pump pressures are insufficient to provide proper mud circulation and proper removal of cuttings.

Usual drilling practice is to use an overshot and try to remove the pipe. However, by the time the overshot is in place the pipe has usually stayed in the well for some time and the mud has dropped its cuttings onto the drilling tools.

How Stuck Drill Pipe May Be Released With Acid

Essentially, an acid treatment to loosen stuck drill pipe involves introducing acid into that part of the hole where the trouble is and allowing the acid to remain for a long enough time to eat up the obstruction or enough of the formation so the pipe can be pulled loose.

In many drill pipe treatments, good circulation can be obtained down through the drill pipe, and in such cases the acid solution is introduced down through the drill pipe and forced out into the hole by pumping oil, water or drilling mud in after the acid. Often times the acid and the following fluid may be suitably separated in order to minimize mixing.

It is obviously necessary to obtain circulation clear down to the bottom of the pipe. Circulation down to and through the overshot will do no good whatsoever (Figure 3). Overshots are available which are equipped with a packing ring that automatically seals when a strain is taken on the fishing string of pipe. The use of an overshot that will give a complete shutoff is absolutely essential to the success of the acid treatment.

In wells where circulation to the bottom of the pipe is possible, the technique used will depend on what is sticking the pipe. If the pipe is stuck right on bottom, slugs of acid are pumped around the outside of the pipe at regular intervals varying from fifteen minutes to an hour. Each slug should reach from the bottom of the drill pipe up around the pipe and above the obstruction or the tight hole that is causing the trouble.

If the cause of trouble is higher in the hole and a considerable distance above the bottom of the pipe, the acid is usually pumped down the pipe, around through the bit and up the hole outside the drill pipe until the tight portion of the hole is all filled with acid. There the acid is allowed to stand for about six hours, during which time the pipe is rotated frequently and a strain taken from time to time in attempts to pull the pipe loose.

If the pipe does not come loose following application of acid, oil may be circulated down the pipe and returned at the surface to lubricate the pipe. Many times such a lubricating process has successfully loosened the pipe following acid treatment although

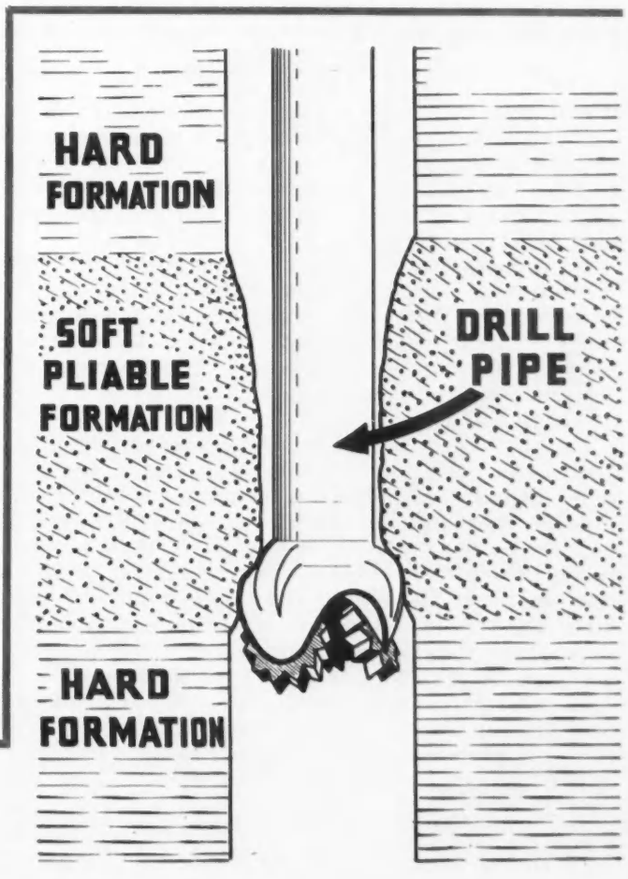

FIGURE 2

Soft pliable formations penetrated in some areas will "squeeze" to such an extent it is impossible to pull the bit out of the hole.

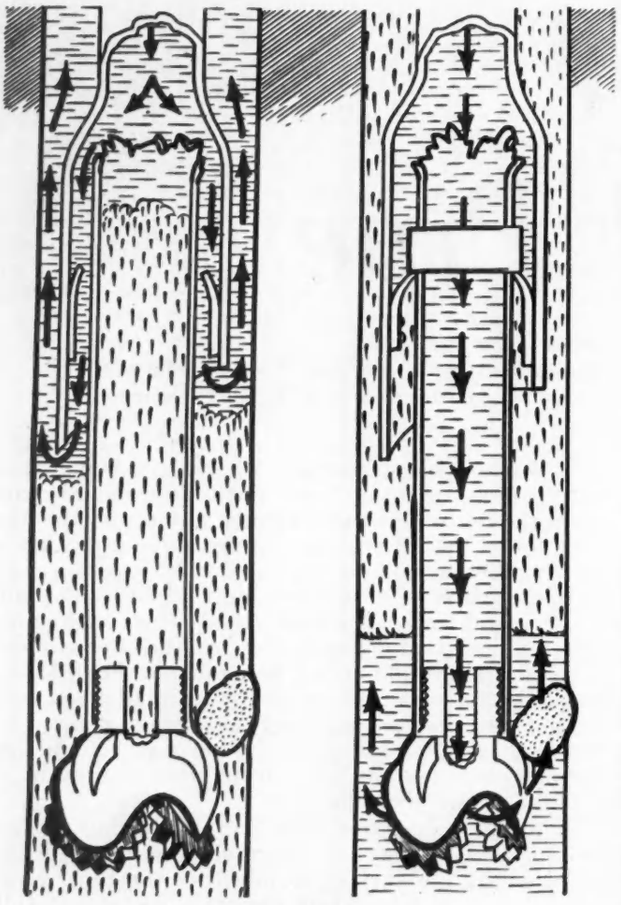

FIGURE 3

It is necessary to obtain circulation all the way to the bottom. When an overshot is used, a seal must be made between the pipe and the overshot, or acidation will be unsuccessful.

it had been unsuccessful previous to acid treatment.

If the drill pipe is stuck in such a manner that no circulation is possible, there is only one good way to treat the well. This method involves the use of a small string of tubing run either inside of the stuck pipe or between the pipe and the casing.

Putting the small pipe down inside the drill pipe is preferable because the acid starts eating on the bottom of the obstruction giving trouble and pressure tends to force it up out of the way. By applying pressure down the outside of the drill pipe, the material wedging the pipe will tend to be pushed down wedging the bit tighter.

Usually the drill pipe is full of mud. If the small string has been put into the well inside the drill pipe, oil is circulated down through the tubing and mud is circulated out inside of the drill pipe but outside of the small tubing. Acid is then pumped down through the tubing allowing the oil to circulate outside of the tubing and this is continued until all of the acid is at the bottom of the drill pipe. The tubing may then be removed from the well and pressure can be applied directly to the drill pipe.

In one treatment the small pipe was left inside the drill pipe and a stuffing box was rigged up between the drill pipe and small tubing. Pressure was then applied directly to the small tubing.

Chemical Reaction Involved

In the treatment of a well to loosen stuck drill pipe, acid is allowed to react only with the face of the wall and no attempt is made to force the acid back into the formation. Often times, the acid does go into the formation, but this is usually detrimental to the treatment. In a regular acid treatment, the concentration of acid is never more than 15 percent by weight and usually varies from 10 to 12 percent by weight. It is necessary to use acid of this concentration because the viscosity of the spent acid varies more than proportionately with the percent of acid, and it is desirable to produce a spent acid of low viscosity to permit rapid cleaning of the formation. This factor does not enter into the treatment of a well for loosening stuck drill pipe and the only limit to be placed on the acid strength is the limit at which the acid can be satisfactorily inhibited. No acid should ever be used in a well which might tend to damage well equipment inasmuch as acid is usually in contact with metal equipment in the well for periods of a good many hours up to several days.

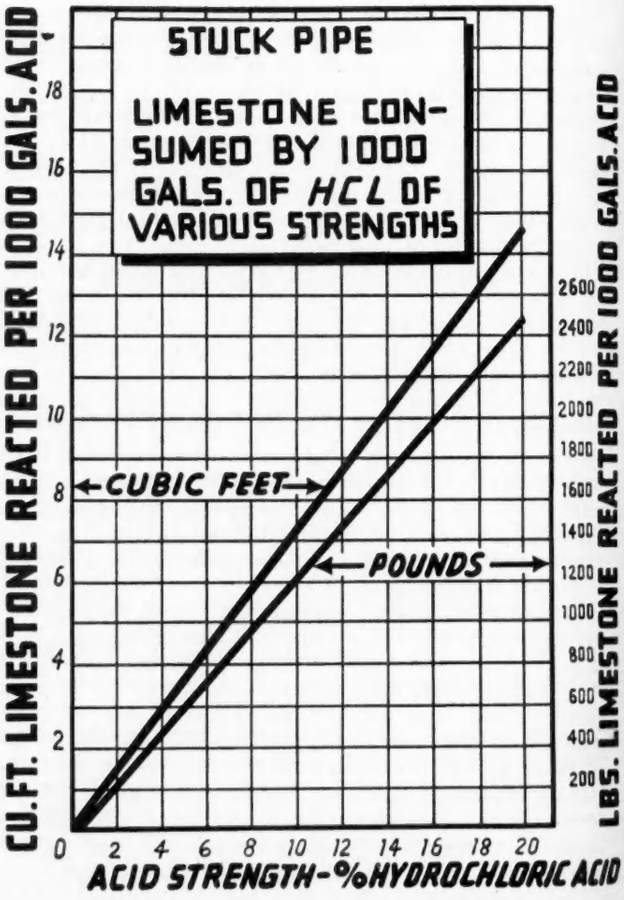

FIGURE 4

Showing the pounds of calcium carbonate and the volume of calcium carbonate reacted with by 1000 gallons of acid of varying concentrations. Using 15 percent acid by weight the curve shows that 1850 pounds of calcium carbonate will be removed, which is equivalent to 10.8 cubic feet of rock.

The maximum acid concentration should never exceed 20 percent due to difficulty in properly inhibiting acid of stronger concentration than this. Twenty percent acid in quantity of 1000 gallons will remove 2520 pounds of calcium carbonate, which is equivalent to 14.7 cubic feet. Unfortunately, the use of

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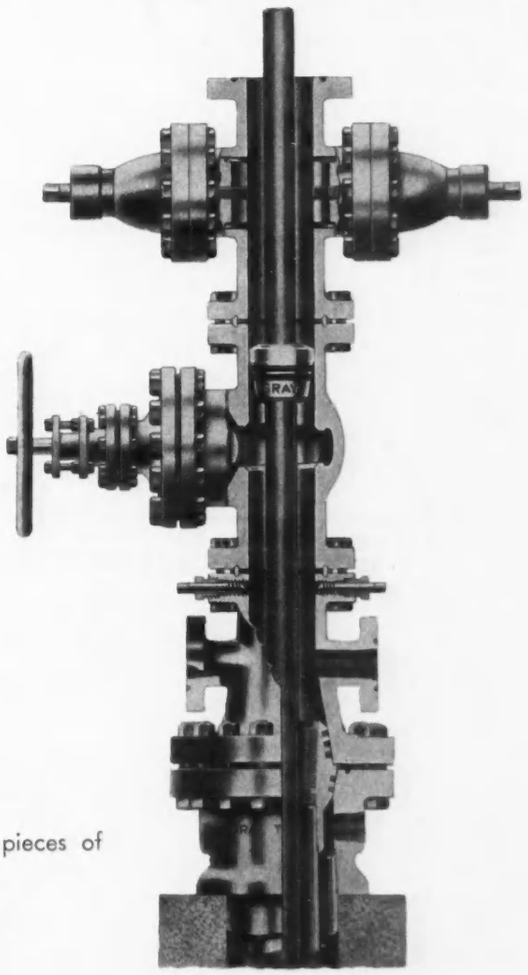

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stronger acid also increases cost of treatment, but this increase is not proportionate.

In order to better visualize the quantity of rock which may be consumed by 1000 gallons of acid, the 10.8 cubic feet dissolved by 1000 gallons of 15 percent acid would make a lump of rock about 2.2 feet on a side. Or, if 20 feet of a lime formation has been drilled with a 6¼-inch hole, 1000 gallons of acid would enlarge the hole to 11¾ inches.

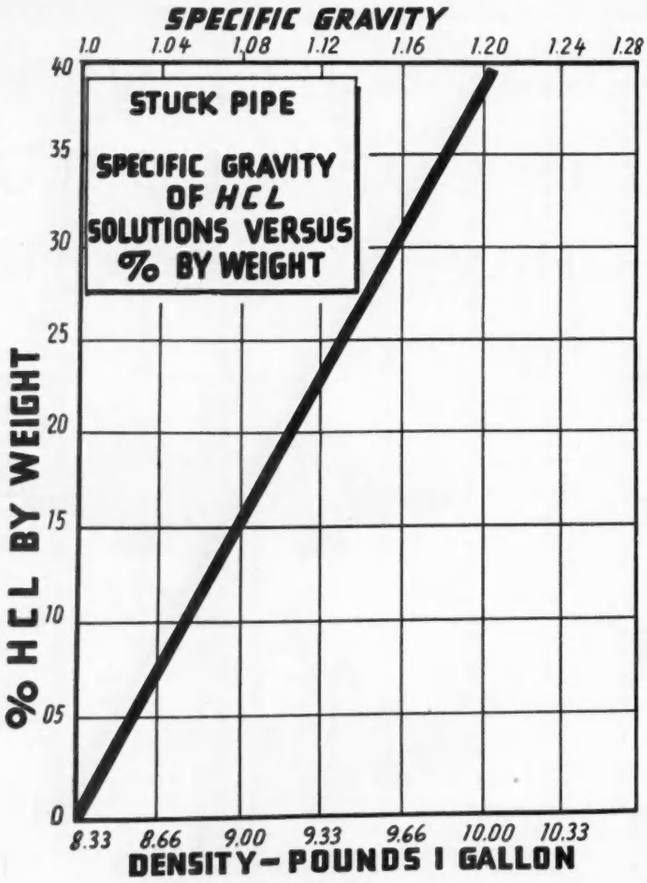

FIGURE 5

Figure 5 shows the increase of specific gravity of hydrochloric acid solutions with increase in percent concentration. This curve is shown both in specific gravity and pounds per gallon.

In many treatments, it is desirable that the acid be heavier than the mud in the hole. In such cases, the acid may be made heavier by the addition of weighting agents and it is possible to increase the specific gravity up to 1.35, which corresponds to 11.25 pounds per gallon. This is one of the newer refinements of this method, and is an improvement where it is necessary to use heavy acid.

This may be used whenever the mud is unusually heavy or when the pipe is known to be stuck at the bottom.

It is also recommended whenever acid must settle through mud or water.

The easiest treatment ever made to loosen pipe was made in Russell County, Kansas. The well had a depth of 2980 feet and drill pipe was stuck at 2940 feet. The formation from 2940 to 2980 feet was a fast acting, porous lime. One thousand gallons of acid were used in the treatment of this well. In order to blanket up the acid off the bottom of the hole and to prevent the acid from going into this formation, a blanketing material was introduced into the well ahead of the acid. Six barrels of acid were forced out of the bottom of the pipe into the bottom of the well and allowed to stand. The level of the drilling mud in the casing remained at the top of the casing for about 10 minutes and then began to drop slowly. The acid pump was started and fluid was pumped into the tubing at a fast enough rate to keep the mud at the top of the casing. In 15 minutes the pump could not pump fast enough to keep the drilling mud level at the top of the well. A strain was taken on the drill pipe and the pipe was pulled loose, exactly 25 minutes after the acid had reached the bottom of the well.

Results of Specific Treatments

A more typical example is a recent treatment of a well in Pontotoc County, Oklahoma. The well had been drilled to 2982 feet in the Viola limestone. The pipe stuck 190 feet up the hole while the pipe was going in. Acid was pumped down through the drill pipe until four barrels had gone out the end of the pipe and started up in the hole again. A strain was taken on the pipe and the pipe was rotated back and forth without results. After standing for an hour and a half, one more barrel was spotted outside the pipe. Again a strain was taken on the pipe with no results. After standing another hour, one more barrel was circulated out of the pipe, then a two-barrel slug in another hour and a half, and another two-barrel slug about an hour and a half after that.

A strain was taken on the pipe, the weight indicator rose to 45 points, and then dropped back to 36 points very suddenly. The pipe was rotated slowly, raised easily, and finally pulled out of the hole. Upon pulling the last stand of pipe, it was found that a reamer cutter had pulled out and the evidence pointed to the theory that it had stuck crossways in the hole. The drill pipe came loose 5½ hours after the acid had first hit the formation.

Another interesting treatment is a recent one in Lea County, New Mexico. The pipe was stuck at 3763 feet in limestone. The pipe had fallen to the bottom of the hole, and when the operator had tried to pull the pipe out of the hole, he found it stuck. A pressure of 3200 pounds at the surface of the well failed to produce circulation. Rather than place unnecessary strain on the drill pipe and possibly twist it off with a subsequent fishing job, the drilling contractor chose to attempt to loosen the pipe with acid.

The pipe was full of mud, and it would have been impossible simply to make acid settle through a column of mud 3700 feet high. Therefore, a string of one-inch tubing was inserted inside the drill pipe to the bottom of the well. Oil was introduced through this one-inch pipe to clear all drilling mud out of the pipe. Acid was pumped down through the one-inch pipe until all the acid was at the bottom of the drill pipe. The one-inch pipe was pulled from the well and all surface fittings were reinstalled. A pressure of 1550 pounds was then placed on the surface of the drill pipe. In a half hour the pressure had fallen a little and the driller tried to pull the pipe loose, but it was still stuck. The pipe was then pressured to 1850 pounds, but with no results. An hour later, it was pressured to 1950 pounds, and this pressure was maintained for more than an hour.

Suddenly, the pressure dropped as the driller was trying to pull his pipe, and it was found that small circulation had been established. One-half barrel of

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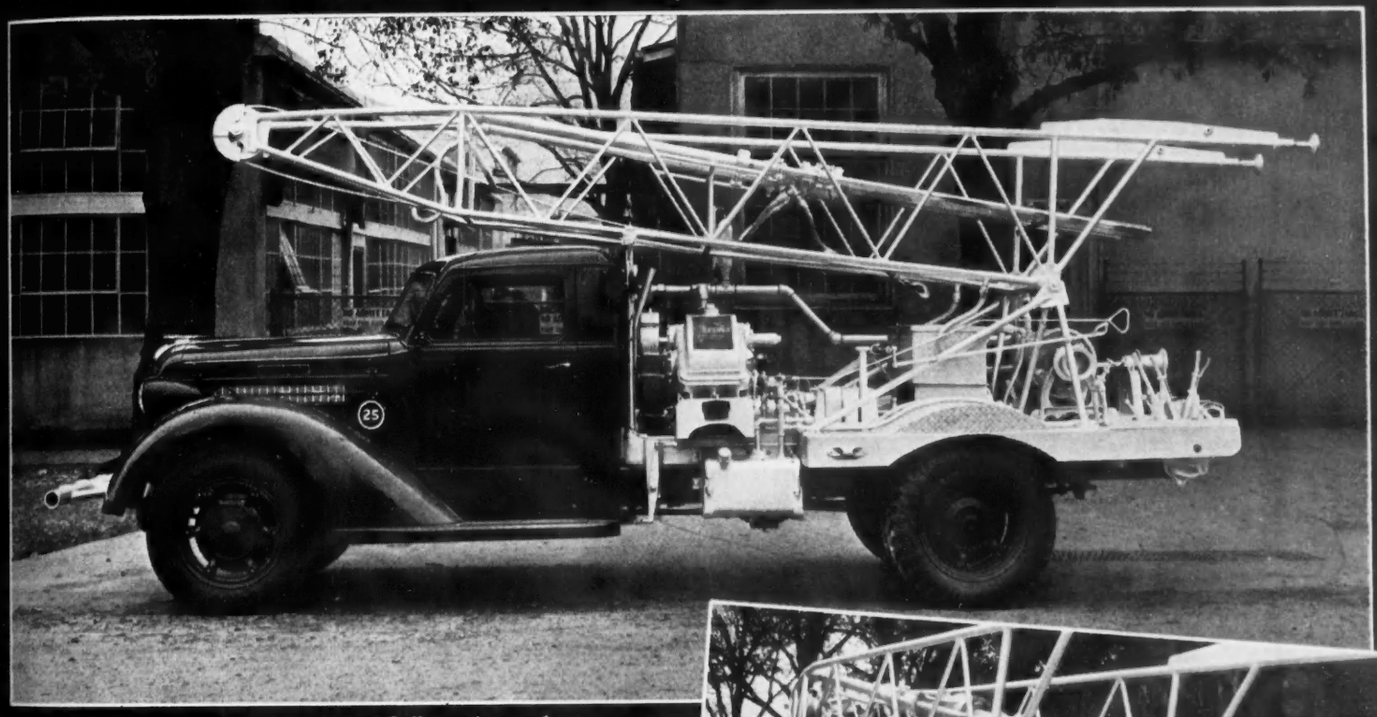

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acid was then pumped around the bottom of the drill pipe into the hole and allowed to stand for one hour. At the end of that hour, another one-half barrel was pumped at a surface pressure of 450 pounds and the pipe was worked again. Another one-half barrel was then pumped into the well and allowed to stand for 15 minutes. Then the mud hog was started and it was found that free circulation had been established. A strain was taken on the pipe and it came out with no further difficulty. It took about 6½ hours for the acid to loosen the pipe in this particular case.

In a treatment in Loving County, Texas, pipe was stuck following a twist off. The well had been shut down for three weeks during which time the hole had caved in enough to stick the pipe. The first time the well was treated, apparent circulation was established and the well treated in the usual manner. No results were obtained, however, and further circulation of fluid led to the discovery that the acid apparently had not reached bottom, but probably had left the drill pipe through a leak in the overshot.

The next day another overshot was used and a good seal obtained. A string of two-inch tubing was run inside the drill pipe and four barrels of acid spotted right on top of the bit inside of the drill pipe. The tubing was withdrawn, pressure applied to the drill pipe and circulation was soon obtained.

The second stage of the treatment then proceeded along convential lines and the pipe was soon free.

Results Obtained

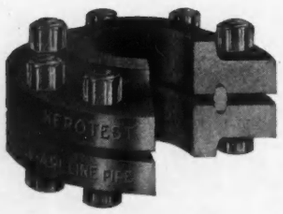
In studying a group of wells treated with acid to loosen stuck drill pipe, it is difficult to find a percentage figure that will represent a true picture of the success of the method. For example, one string of pipe had been stuck a week, had been shot with glycerine, and had not come loose. Probably the pipe had been shattered although it did not give away. No circulation could, therefore, be expected through the bit. Acid did not work in this well. In the well discussed above, an overshot was used but circulation was obtained through the overshot and the acid did no good. Yet next day the pipe was freed by use of acid because an overshot equipped with seal had been used allowing circulation to the bottom of the hole. In other cases, pipe has been stuck in sand and acid has been used as a last resort because of the small expense compared to the amount to be saved by a possible successful treatment.

An analysis of 38 stuck drill pipe treatments has been made taking into consideration the above facts and this analysis clearly shows that treatment to loosen stuck drill pipe is definitely a progressive step in drilling practice. This analysis is as follows:

Number of Successful Treatments	19
No Response—Probably Pipe Stuck in Sand	5
No Response—Junked Wells	3
No Response—Due to Mechanical Difficulties	3
No Results Obtained	8
	38

Thus, treatment for the removal of stuck pipe was successful in 50 percent of the above wells even taking into consideration that eight of the 37 wells were poor subjects for treatment and three proved to be in such mechanical shape that treatment was impossible.

QUALITY IS HAMMERED INTO KEROTEST RING JOINT FLANGE UNIONS



Armco Ingot Iron Endless Gasket Rings for Ring Joints

To assure the strong, dependable tight-fitting joints for which Kerotest Ring Joint Flange Unions are noted, they are hammered from the billet in a drop forging die block. A special high carbon, high manganese steel is used, heat treated to develop high tensile strength . . . high yield point . . . ideal threading qualities and greater rigidity.

Kerotest rigidity prevents expansion of the threading under repeated "making up" and "breaking down". It also prevents the natural tendency to bend or close in when undue pressure is applied to bolting.

Each flange is grooved with extreme accuracy and finish to provide the proper seat for the Endless Armco Ingot Iron Gasket. Bolting consists of high tensile heat treated alloy steel studs having hexagon nuts on each end—built for the most severe service and pressure conditions.

KEROTEST

KEROTEST MANUFACTURING COMPANY

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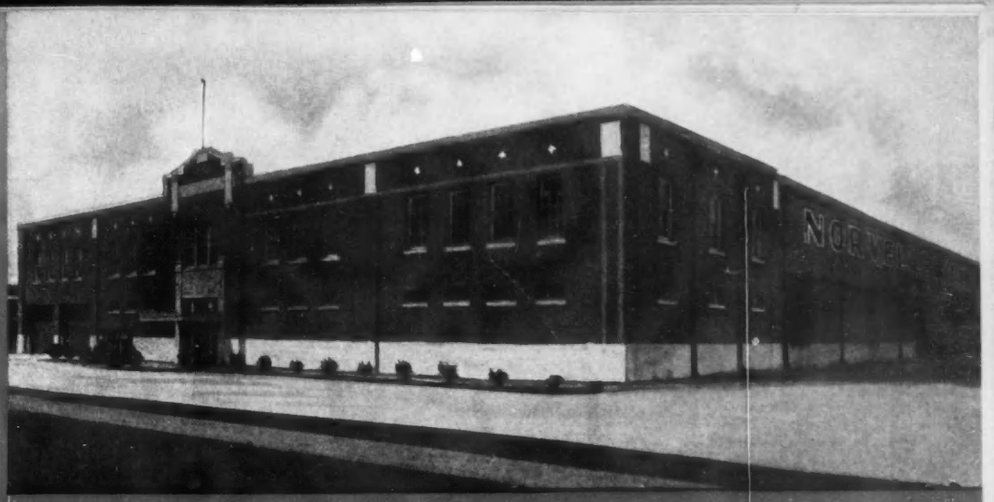

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Pacific Coast District A. P. I. Meeting

Los Angeles
April 13

Drilling and production problems and trends are to be discussed by engineers.

Los Angeles.—The Pacific Coast district of the American Petroleum Institute, Division of Petroleum, will hold its annual spring meeting in the Biltmore Hotel, Los Angeles, California, on Tuesday, April 13. L. L. Aubert is chairman of the Pacific Coast Section and will be the presiding officer.

Four Drilling Papers

Under the auspices of H. C. Pyle, chairman of the program committee, a number of interesting technical papers have been arranged for presentation. Seven speakers will discuss pertinent engineering problems or trends.

The morning session, which gets underway at 9:30 in the Biltmore Theatre, will be devoted entirely to drilling practices. Four papers will be presented as follows: "Field Control of Drilling Mud" by P. H. Jones of Union Oil Company of California; "Wire Line Core Barrel" by W. A. Clark of The Texas Company; "Rotary Table Horsepower" by C. S. Forsberg, Honolulu Oil Corporation, Ltd.; and "Plant Pipe Reclamation" by K. C. Hayes, Standard Oil Company of California.

L. L. AUBERT is chairman of the Pacific Coast District of the American Petroleum Institute's Division of Production, which will hold its spring meeting April 13 in the Biltmore Hotel at Los Angeles, Calif. Aubert is general manager of Bankline Oil Company and Norwalk Company. He is a graduate of Stanford University, and entered the petroleum industry in January, 1922, in the employ of General Petroleum Corporation. He was engaged in the drilling, producing and refining operations of the corporation until 1927, when he was appointed to his present position, with management of drilling, producing, refining, and marketing operations.

Three Production Papers

The afternoon session will be confined to production practices, and will be held in the Biltmore Bowl. It gets underway at two o'clock. Three papers will be delivered at this session, as follows: "Acidization of Oil Wells" by M. W. Morris, Standard Oil Company of California; "Reconditioning Procedure with Portable Equipment" by H. E. Winter, Union Oil Company of California; and "Selection of Size of Oil Strings in Wells in California" by E. K. Parks, Standard Oil Company of California.

Open Discussion

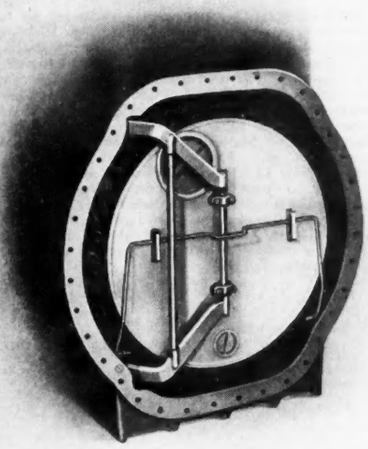
All men interested in the oil industry are invited to attend these sessions,

Presiding Officer and Program Chairman

H. C. PYLE, Union Oil Company of California, Los Angeles, California, is chairman of the Program Committee of the Pacific Coast District of the American Petroleum Institute's Division of Production. The District holds its spring meeting April 13 in the Biltmore Hotel at Los Angeles. Pyle, production research engineer for Union Oil Company of California, was graduated in engineering and geology by the University of California, and became affiliated with the geological department of Union Oil Company in January, 1927. He spent a year and a half on exploratory geological work in Venezuela, then returned to the United States. After leaving the company's employ for a short period, he returned to become a member of the production engineering force. He has been engaged in an extensive study of the relation of bottom-hole pressures to production efficiency.

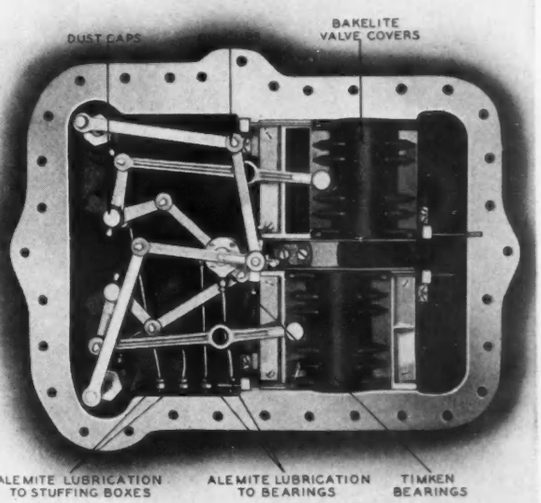
To the last *detail* . . .

After all, the accuracy and the economy of a meter over a period of years hinge not upon just one or two outstanding features . . . but upon every detail of design, materials, construction. METRIC IRONCASE METERS give you many outstanding features plus painstaking engineering to the last detail! . . . such as the body construction of fine gray iron cast in one piece to prevent internal leaks, and specially processed inside to resist corrosion.

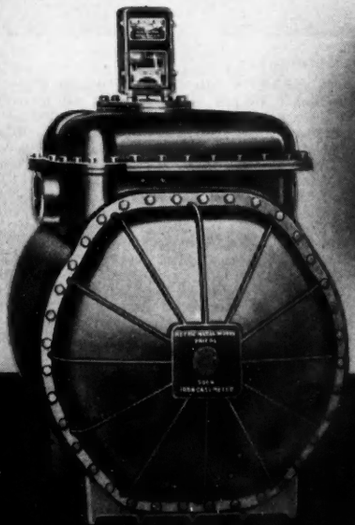


The back disc of the Metric Ironcase Meter diaphragm is fastened rigidly to middle partition. In the 500-B Ironcase Meter here illustrated, the step for the lower end of long flag rod is equipped with Timken bearings, that are Alemite-lubricated. Another distinctive feature is the full bellows, to insure accuracy throughout the entire Ironcase line.

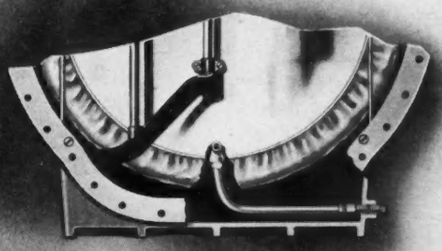
This Slide Valve construction . . . characteristic of 500-B and 250-B Ironcase Meters . . . shows the reduced angular movement and the features of design which lessen friction and prolong wear. Special materials and metal alloys are used for valves and valve seats. Dust caps also protect the Alemite-lubricated bearings. Friction loss is cut to a minimum.



Write for information on Base Pressure Index or Base Volume Index which give a corrected reading for pressure or for pressure and temperature combined.



TYPE 500-B
With Base Pressure Index



Adequate provision for draining condensate from diaphragm and case interiors, contributes to efficient diaphragm action. The illustration shows drain connection . . . leading from the bottom of diaphragm to outside of case . . . utilized in Ironcase Meters 80-B and larger. Ironcase diaphragm leathers . . . in form, quality, special tanning and oil treatment . . . also are a highly important factor in accurate gas measurement.

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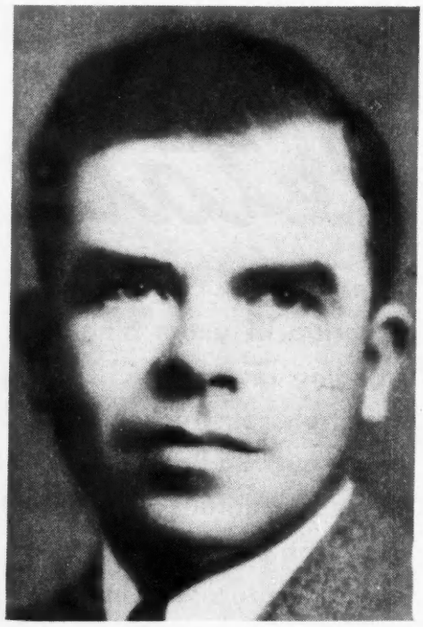
whether or not they are members of the American Petroleum Institute. Following the presentation of each of the papers they will be open to discussion from the floor.

At 7 o'clock in the evening a dinner will be held in the Biltmore Bowl. The guest speaker will be A. L. Weil, president of General Petroleum Corporation of California. His subject will be "History of the Oil Industry in California." Tickets for this dinner are $1.50.

Ralph Marshall of Oil Well Supply Company is chairman of the committee on arrangements, and Bruce Barkis, Rio Grande Oil Company, is chairman of the nominating committee. Marshall has assisted in making plans and arrangements for the meeting. Barkis will make the report of his nominating committee for officers and the advisory committee at the dinner to be held in the evening.



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ERNEST K. PARKS will discuss "Selection of Size of Oil Strings in Wells in California." Parks entered the petroleum industry in 1919, becoming associated with the U. S. Bureau of Mines at Denver, Colorado. He participated in petroleum engineering work undertaken by the Rocky Mountain Petroleum Association in Wyoming. Leaving field work to take up studies at Stanford University, he was graduated, and in 1924 joined the engineering department of Standard Oil Company of California at San Francisco. For five years he was active in the Department of Economics. In 1929 he was transferred to Taft, Calif., as petroleum engineer, and later specialized upon observation and application of depth pressures in the Kettleman Hills field oil wells. Since 1934 he has directed production engineering work in Southern California.

Above:

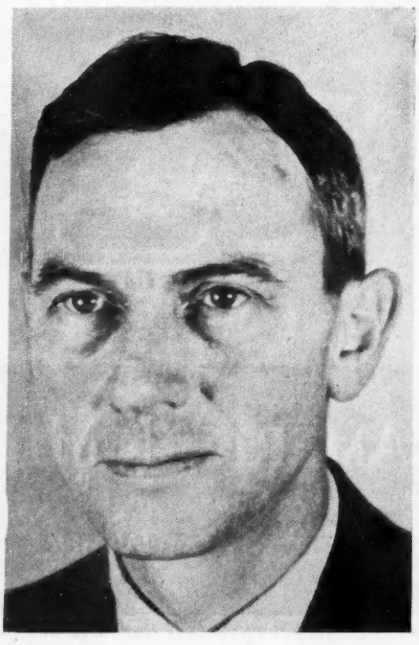
P. H. JONES is to present a paper, "Field Control of Drilling Mud," at the spring meeting of the Pacific Coast District of the American Petroleum Institute's Division of Production. Jones, of Wilmington, Calif., is research supervisor at the Los Angeles refinery of Union Oil Company of California. He entered the company's employ in May, 1923, taking charge of the inspection and analytical laboratories at the Wilmington plant. Four years later he was transferred to the research department as chemical engineer in charge of gas, water, and absorption plant problems. In 1937 he became research supervisor. He was graduated in chemical engineering by Stanford University, and has been active for some time in research in the characteristics, control, and use of rotary mud, particularly as regards elimination of damage to production formations and loss of circulation.

Some of the speakers at the Pacific Coast District meeting of the American Petroleum Institute, Division of Production.

Los Angeles, April 13, 1937

Above:

K. C. HAYES will talk on "Plant Pipe Reclamation." Hayes was born at Glynnwood, O., and entered the petroleum industry as a boy working with his father, a driller, contractor, and producer. In May, 1911, he entered the employ of Standard Oil Company of California in the production department at Taft. During the World War he spent two years in the motor transport Division. In May, 1920, he became assistant general superintendent of the company's production department in the Whittier division, and in 1923 was placed in charge of the supply division for that district. In 1930 he took charge of all stores in the southern district, and in June, 1934, returned to Taft to take charge of purchases and stores for the central district, which covers the San Joaquin Valley.



Left:

H. E. WINTER, of Santa Fe Springs, Calif., district engineer of Union Oil Company of California, is to present a paper, "Reconditioning Procedure with Portable Equipment," before the meeting. Winter was graduated by Washington University and entered the employ of Union Oil Company of California in February, 1921, as a member of the Southern Division field department at Montebello. Subsequently he worked as rotary helper and derrick man in various fields, and in 1926 was appointed assistant petroleum engineer at Santa Fe Springs in charge of field scouting. In 1928 he became district engineer.

MEN IN THE INDUSTRY'S NEWS

H. E. MINOR, NOW CHIEF GEOLOGIST IN HOUSTON FOR GULF OIL CORPORATION, LOOKS BACK ON QUARTER OF CENTURY

HE DID SOME OF EARLY WORK ON WATER ANALYSIS AND CORING

IN 23 years with Gulf Oil Corporation and 2 with Sinclair Prairie Oil Company, H. E. Minor can look back upon a quarter of a century of close association with the oil industry in Texas which began in the boom days of the old fieldssuch as Edgerly, Goose Creek and Blue Ridge.

A 1910 graduate of the Missouri School of Mines, he went to Colorado where he was city engineer of Canyon City and county surveyor of Freemont County.

The year 1914 found him doing geological and engineering work for Gulf Oil Corporation in Tampico, Mexico. Less than a year later, the Gulf sent him by mule team and wagon into West Texas where he did some of the first geological work in that section of the state.

By 1915, he was stationed in the Gulf's Beaumont office, scouting the Edgerly field. It was here and in that same year that Minor began the first water analysis work ever done in the Gulf Coast. In conjunction with subsurface geology, water analysis was used for correlation purposes.

At this time there were no core barrels or special bits for taking cores. The few geologists working the Gulf Coast were forced to rely on cuttings and bit samples for their information. One of the methods in vogue was to ball-up the bit, come out of the hole, and take the sample from the bit.

In an attempt to remedy this situation, Minor designed one of the first coring devices used in the Gulf Coast. This was a box bolted onto the bit with a blade projecting past the bit at one side. When the bit was rotated, the blade scraped the sides of the hole, filling the box with a sample.

In the following year, 1916, Minor designed a special bit which was used to core the soft sands at Blue Ridge. These two early attempts at securing cores, among the first in the Gulf Coast, were followed closely by other major companies who saw the advantage in this type of sample.

In 1920, Minor left the Gulf to do geological work for the Sinclair Oil & Gas Company, now Sinclair Prairie Oil Company. By 1922, he was back with the Gulf, where he has remained. He is now chief geologist of the Houston district.

Minor has published four papers pertaining to Gulf Coast oil fields: "Chemical Relation of Salt Dome Waters," 1925; "The Edgerly Oil Field, Louisina," 1925; "Oil Field Waters of the Gulf Coastal Plain," 1934; and "The East Texas Oil Field," 1933. This last paper was written with Marcus A. Hanna, chief paleontologist of the Gulf Company. All the papers were published by the American Association of Petroleum Geologists.

H. E. MINOR

DR. R. C. MOORE, chairman of the department of geology, University of Kansas, and state geologist, was speaker at the last regular meeting of the Tulsa Geological Society, held at the University of Tulsa, April 5. Moore spoke on "The Carboniferous System," dwelling on the Pennsylvanian and Permian rocks of the system which are exceptionally well exposed in Kansas.

LYNN G. SMITH, Smith Oil Corporation, was elected president of the Bradford District Pennsylvania Oil Producers Association when the newly elected board of directors held their first meeting at Oil City April 3. Smith succeeds Cornell N. Pfohl, Jr., of the Kendall Refining Company.

HARRY M. RYDER was elected first vice president; Donald B. Tanner, second vice president, and Robert S. Pringle, Jr., secretary. A. E. Booth was reelected treasurer.

D. T. ANDRUS, George Bovaird, Jr., F. D. Dorn, E. C. Emery, R. M. Haskell, W. J. Healey, Parker L. Melvin, W. J. Sloan, C. F. Stevenson, C. E. Streeter, T. P. Thompson, Jr., H. J. Walter, Booth, Smith, Ryder and Pfohl make up the executive committee.

O. T. DAWSON, vice president and general manager of the Tulsa branch of the National Supply Company of Delaware, is critically ill at Menorah hospital in Kansas City, Missouri. Reports from Kansas City late last week stated his condition unchanged.

FRANK KING, Tyler, drilling contractor, and James B. Burleson, secretary of the Cranfill-Germany Interests, Dallas, for the past six years, have organized the King-Burleson Drilling Company on a partnership basis. The new concern will engage in rotary contract work and also acquire properties. Office has been established in Praetorian Building, Dallas.

HENRY REY, formerly in the McAllister district of Oklahoma for Shell Petroleum Corporation, was recently transferred to the Tulsa offices of the company where he is serving as surface geologist. Rey spent considerable time in the Orient with Standard Oil Company of California.

FRED JACKSON, land man and scout for Phillips Petroleum Company at Ardmore, has been transferred to Bartlesville. He is replaced at Ardmore by P. A. Highland, sent there from Cushing.

C. B. McCLINTOCK, geologist of Oil City, Pennsylvania, addressed the Oil City Kiwanis club Tuesday on the development and future prospects of the oil industry in Pennsylvania.

WILLIAM JOSEPH ("WILD BILL") DONOVAN, chief counsel for all defendants in the oil "conspiracy" indictment before the federal court in Madison, Wisconsin, was in Houston last week listening to the removal hearing of O. H. Carlisle, manager of the Houston division of Gulf Oil Corporation and one

DIED:

FRANCIS E. DONNELLY, 32, vice president of Eastland Oil Company, died April 7 in a Fort Worth hospital after a long illness. He is survived by his widow; three children; two brothers, George and Walter Donnelly; and three sisters.

C. L. BULLOCK, 58, pioneer producer and drilling contractor in Michigan, died March 28 in St. Mary's hospital at Saginaw, following a six week's illness. Funeral services were held in Saginaw March 30 with burial in Cincinnati, Ohio. Bullock was president of Bess Land Royalty Company, Crude Oil Company, Davis Oil Company, and American Drilling Company.

ROY HYER, 54, and Ed. Rayfield, 31, shooter and assistant shooter, respectively, for Larkin Torpedo Company were killed April 5 when a batch of nitroglycerine exploded while being prepared for use on a well in Keystone field, near Kermit, Texas.

of the defendants, before United States Commissioner Carothers. Donovan did not take an active part in the hearing.

P. F. DAVIS, of The Texas Pipe Line Company of Oklahoma, Tulsa, was elected president of the Petroleum Industry Electrical Association at its annual convention here today. E. M. Smith of Houston, United Gas System, was named vice president, and H. E. Browne, Sinclair Pipe Line Company, Independence, Kansas, was re-elected secretary-treasurer.

LYLE CUMMINS now is scout for Continental Oil Company in the Gulf Coast district of Louisiana and Mississippi. He succeeded Ray Kinkaid, who is now an engineer on one of the company's geophysical crews. Cummins has been associated with Continental Oil Company for seven years, all of which has been in the geophysical department.

W. K. LINK of Carter Oil Company, Tulsa, has been transferred to Standard Oil Company of Louisiana, with headquarters at Shreveport, succeeding E. V. Whitwell as head of the geophysical exploration department. Whitwell was recently transferred back to Carter Oil Company at Tulsa.

Tulsa.—More than 125 students and visiting engineers were in Tulsa April 6, participating in the two-day gathering of the Southern Group VI of a student conference sponsored by the American Society of Mechanical Engineers, held each year in different sections of the country. First day of the meet was April 5 at the Oklahoma A. & M. College, Stillwater, Oklahoma. Following a dinner in their honor Monday night, the group drove to Tulsa Tuesday where they were conducted on a tour of the Mid-Continent Petroleum Corporation's refinery in West Tulsa. The address of welcome was delivered by Mayor T. A. Penney, following which A. J. Kerr, president of the Equitable Meter Company, spoke on "Young Men's Responsibility in Business."

P. & N. G. MEET

State College conference has interesting program

State College.—The Seventh Annual Petroleum and Natural Gas Conference April 30 and May 1 on the campus of Pennsylvania State College here will hold discussions on oil Friday and gas discussions Saturday, according to the program announced last week by Sylvain Pirson, head of the department of petroleum and natural gas engineering. A. L. Foster, National Petroleum News, will act as chairman of the petroleum session.

Program Arranged

The program of this session includes the following papers: "Application of the Schlumberger Well Logging Process to Pennsylvania Problems," by W. J. Gillingham, Schlumberger Well Surveying Corporation, Houston, Texas; "Pennsylvania Oil Well Shooting Problems," by Harry M. Ryder, Ryder Scott Company, Bradford, Pennsylvania; "Hypoid Gear Lubricants," by C. W. Georgi, Enterprise Oil Company, Inc., Buffalo, New York.

Following is the natural gas session program: "Electrolysis and Pipe Corrosion," by A. L. Black, Ford, Bacon and Davis, Incorporated, New York; "Geophysical Exploration in Pennsylvania," by L. E. Randall, Geophysical Exploration Company, Charleston, West Virginia; "Sales Problems of the Natural Gas Industry," by B. H. Gardner, Columbia Gas and Electric Company, Columbus, Ohio.

Members of the advisory boards assisting in the arrangements and conduct of the conference follow:

Petroleum advisory board—D. T. Andrus, Bradford; George H. Ashley, state geologist, Harrisburg; E. E. Brown, Kendall Refining Company, Bradford; W. J. Brundred, Brundred Oil Corporation, Oil City; W. R. Chedsey, State College; W. F. Clinger, Clinger Oil & Gas Company; Carl R. Daugherty, Western Pennsylvania Oil Producers' Association, Butler; R. T. Eastell, Washington Oil Company, Pittsburgh; K. C. Heald, Gulf Refining Company, Pittsburgh; Ralph D. Hetzel, president, Pennsylvania State College; C. C. Hogg, National Petroleum Company, Titusville; MacLean Houston, United Refining Company, Warren; J. C. Martin, Bradford District Pennsylvania Oil Producers Association; Parker L. Melvin, Towne-Melvin Oil Company, Bradford; J. E. Moorhead, executive secretary, Pennsylvania Grade Crude Oil Association, Oil City; K. B. Nowels, Forest Oil Corp., Bradford; Wilson K. Page, Olean Petroleum Company, Olean, N. Y.; Arthur C. Simmons, Bradford; Edward Steidle, dean, School of Mineral Industries, Pennsylvania State College; Dr. H. M. Weir, M. W. Kellogg Company, New York City; W. S. Zehrung, The Pennzoil Company, Oil City.

Gas Advisory Board

Natural gas advisory board—George H. Ashley, C. E. Bennett, president, Manufacturers Light & Heat Company, Pittsburgh; W. R. Chedsey; Ralph D. Hetzel; Samuel W. Meals, president, Carnegie Natural GasCompany, Pittsburgh; J. French Robinson, president, Peoples Natural Gas Company, Pittsburgh; F. F. Schauer, vice president, Equitable Gas Company, Pittsburgh; Edward Steidle; J. B. Tonkin, Peoples Natural Gas Company, Pittsburgh; George E. Welker, president, United Natural Gas Co., Oil City.

New Officers of Southwest District of A. P. I. Division of Production

These men were elected officers of the Southwestern district of the American Petroleum Institute, Division of Production, at the annual spring meeting in Dallas, April 1 and 2. Left to right: C. G. Staley, Lea County Proration Office, Hobbs, vice chairman in charge of New Mexico; A. G. Levy, petroleum engineer, The Texas Company, Shreveport, chairman; George B. Corliss, district superintendent, Humble Oil & Refining Company, Houston, vice president in charge of South Texas; W. S. (Buck) Morris, field chairman, East Texas Engineering Association, Kilgore, vice chairman for East Texas; and Carl Hickman, district manager of Dewey T. Ross, Inc., Houston, secretary. Three vice chairmen were not present when this picture was taken. They are: W. C. O'Ferrall, Lion Oil & Refining Company, El Dorado, for Arkansas; Harvey H. Hardison, Standard Oil Company of Texas, Midland, for West Texas; and W. A. Alexander, Shell Petroleum Corporation, Iowa, for Louisiana.

Old Timers Feast

THIRTY-FIFTH ANNIVERSARY OF TEXACO IS CELEBRATED

Houston.—Shades of the heydey of Spindletop oil field—reminiscences of the days when W. S. Rogers, who now sits behind mahogany in New York, flunkied around a coastal refinery learning something about the business—and when Bert Hull, now president of Texas Pipe Line Company, was threading his own nipples and wearing bandages to make his cohorts think he didn't know how to handle his tools—and when T. J. Donoghue talked spot markets in a galvanized tin shack on the railroad track within reach of the locomotive's steam exhaust—and when J. S. Cullinan, the founder, was turning flip-flops for a little ready cash—

These were the things that brought laughs and throat tightening memories to those who attended April 7 in Houston the banquet for the first meeting of the Old-Timers Club of The Texas Company, now a permanent organization. The initial banquet had as its purpose celebration of the thirty-fifth anniversary of the company. Hosts were those who had served Texaco 25 years or more.

Sixty-six Old-Timers in Houston and more in the immediate area invited officials and guests from all parts of the United States to the banquet. The 84 members of the newly organized Old-Timer's club have served The Texas Company about 2393 years, or an average of 28½ years per man.

V. R. Currie, newly elected president of the Old-Timers Club and a 30-year man, acted as toastmaster and introduced every member and guest and told of the purpose of the gathering. Communications were read from members of the company who were unable to attend the first meeting of the club. Telegrams and letters were read from T. Reiber, chairman of the board, New York; Harry T. Klein, vice president, New York; H. W. Dodge, vice president, New York; F. D. Manley, vice president in charge of refining, New York; Arnold Schlaet, St. Petersburg, Florida, and F. J. Donoghue, Corsicana, the first baby born to an employe of the company, Corsicana, Texas.

Progress of The Texas Company

T. J. Donoghue of Houston, vice president and one of the oldest living employes of The Texas Company, spoke on the formation of the company and its growth and progress in 35 years.

"Organized by J. S. Cullinan and operating under a charter granted Texas Fuel Company March 28, 1901, the first directors, all of Corsicana, were J. S. Cullinan, Dr. M. P. Cullinan, and H. L. Scales, The company did no business until January, 1902, when Dr. Cullinan and Scales retired, and at a meeting held in Beaumont on January 2, 1902, J. S. Cullinan, Rod Oliver and R. E. Brooks were made directors. The authorized capital was $50,000.

"The Hogg-Swayne syndicate, composed of Governor James Stephen Hogg, J. W. Swayne, Harris Masterson, Rod Oliver, R. E. Brooks, W. T. Campbell, A. S. Fisher, S. E. Moss, and E. J. Marshall, had acquired a tract of land at Spindletop which they cut up into small pieces—some as small as 1/16th of an acre—and sold them to stock promotion companies. Of 83 such companies listed on the Beaumont Oil Exchange and 62 on the Houston Oil Exchange, none is now in existence. The Texas Company, Sun Oil Company and Gulf Oil Corporation are the only companies starting at Spindletop that have expanded and are still doing business.

"The Hogg-Swayne syndicate had plans for a pipe line to Port Arthur and a small refinery at that point. Cullinan arranged to purchase for Texas Fuel Company the plans, contracts, rights of way, etc., which formed the nucleus of Texas Fuel Company. He then interested John W. Gates and several Chicago friends and associates, Arnold Schlaet, the Lapham family, and others.

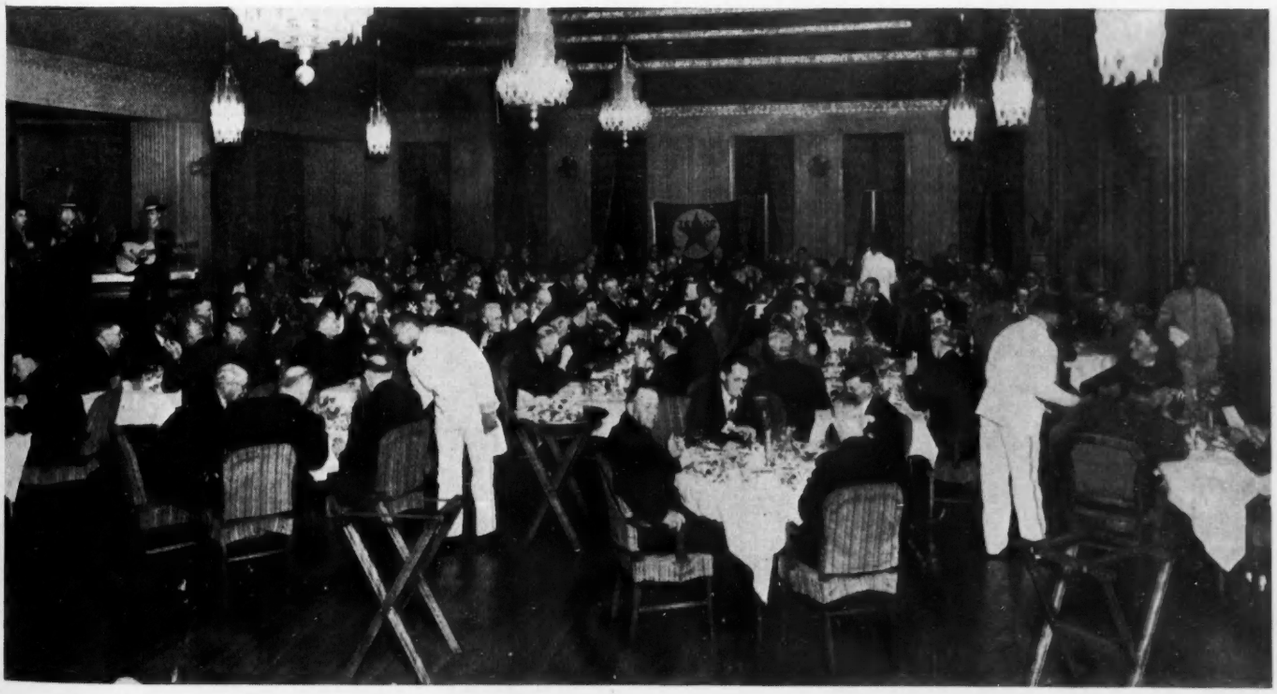
"Texas Fuel Company, in the meantime had increased its capital to $500,000 and had a total of 26 stockholders. Only four of these are still living. They are George M. Craig, Arnold Schlaet, A. C. Miglietta, and T. J. Donoghue.

All but 10 Gone

"The first list of stockholders in The Texas Company included 113 names. So far as I know, with the exception of about 10 they have all passed away. Our first field pay roll contained 40 names. They have all passed out with the exception of John C. Colligan. Our first office was in a little galvanized iron building alongside the railroad, for which we paid $35 per month. A few months later we moved to the new Temperance Hall building on Pearl Street, where we rented part of the second floor.

"Our first oil run on Spindletop was on January 31, 1902, from Alamo Oil

The first annual Texaco Old-Timers banquet included 84 members.



Company, amounting to 848 barrels. Contract with the Alamo was at 3 1/3 cents per barrel. Subsequent contracts with the Hogg-Swayne syndicate and others were at 3 cents per barrel. The first gauge on stock tank at Garrison Station was at 7:00 a.m. February 18, and showed 24,655.94 barrels. On May 15 the six-inch line to Port Arthur having been completed and tested, the first delivery was made to Port Arthur. By that time we had accumulated 290,000 barrels at Garrison. On August 1 we had on hand 626,000 barrels.

"Texaco" Coined by Brown

"Asphalt stills were completed and put into operation a few months later. George M. Brown of St. Louis was made general sales agent and it was he who coined the word 'Texaco' which was destined, together with the Red Star and Green Tee, to spread into 48 states and to every civilized country in the world.

"In 1903 The Texas Company exercised an option on the 800 acres of Sour Lake Springs Company at Sour Lake. The option secured on the property by Jas. Roche for one million dollars was purchased by The Texas Company. The agreement gave our company the right to drill three test wells. Jim Sharp was in charge of the drilling, and when No. 3 came in as a gusher the property was taken over, but for $900,000 instead of one million. This gave the young company its real start.

"J. S. Cullinan retired in November, 1913. The company had made marked progress during his regime. E. C. Lufkin succeeded him as president, then Amos L. Beaty, followed by R. C. Holmes, and in 1933 by W. S. S. Rogers."

Members of the Old-Timers Club voted to make the club permanent and the banquet an annual affair, with the following officers: V. R. Currie, president; M. C. Vangundy, V. L. Porter and C. W. Redman, vice presidents; P. A. Angened, secretary, and A. R. Megarity, treasurer. The nominating committee was composed of G. W. Foster, Guy Carroll, and J. B. Duke.

Included below are Old-Timers in Houston and vicinity.

Those who have served from 31 to 35 years are in the order of senority, T.J. Donoghue, executive; J. C. Colligan; Guy Carroll, treasury; W. L. Wright; Ira McFarland, comptrollers; A. M. Donoghue, executive; P. C. Scullin, refining; C. E. Pratt; R. G. Dawson, purchasing; C. J. Giezendanner, personnel; C. W. Bewley, B. E. Hull, R. J. Daniel, R. J. Topliffe, comptrollers; J. L. Adams, producing.

Those who have served from 28 to 30 years, in the order of their seniority, are J. H. Borchers, V. R. Currie, personnel; R. B. McLaughlin, E. H. Catlin, producing; J. A. Bartlett, retired; E. M. Coleman, treasury; B. E. Emerson, comptrollers; L. D. Fletcher, refining; A. R. Megarity, sales; L. M. Fitzgerald, comptrollers; J. H. Wallace, producing; E. L. Cullum, producing; E. T. Junkins, producing; H. J. Flake, treasury; O. Hartung, producing; M. C. Van Gundy, refining; R. F. Irvin, sales; G. L. Noble, executive; J. E. Horrigan, T. J. McMahon, A. S. Bailey, W. R. Ellwood, sales; O. M. Looper, producing; Joe A. Fryou, J. B. Duke, executives; B. L. Kowalski, sales.

Those who have served the company for from 24½ to 27 years include L. E. Barrows, producing; W. E. Leach, refining; E. E. Schreck, refining; W. B. Williams, refining; T. J. Hester, comptroller; H. C. Selke, sales; T. N. Dawson, treasury; St. C. B. Byrne, refining; G. W. Foster, legal; J. F. White, comptrollers; H. G. Shook, producing; E. J. Schiller, W. O. Grain, legal; George Ludwig, refining; O. H. Matthews, producing; J. S. Moss, comptroller; C. I. Voss, legal; J. F. Tietze, P. A. Angenend, F. C. Jones, refining; C. A. Greaner, refining; W. E. Green, comptroller; C. W. Geiger, sales; G. T. Morse, comptrollers; S. E. Monroe, sales; M. H. Langford, sales; W. B. Thurmond, refiining; J. B. James, comptrollers; John German, purchasing; P. H. Burger, sales; C. W. Redman, comptrollers; V. L. Potter, producing; Will Peeples, comptrollers; J. W. Dieckert, refining; W. G. Howland, comptrollers; R. W. Taylor, refining; L. Livingston, J. Hemmi, sales; J. W. Harmon, refining; I. R. Cleveland, E. R. Davis, sales; W. H. Lester and L. J. Larue.

Many Visitors Attend

Visitors to the banquet were: W. S. S. Rogers, J. H. Lapham, George M. Craig, A. M. Johnson, J. S. Leach, W. H. Noble, C. B. Barrett, J. A. Bermingham, A. B. Patterson, E. M. Freeman, R. C. Stewart, Ed Merren, F. G. Betzel, F. P. Dodge, F. L. Wallace, H. M. Snyder, P. H. LaGrone, E. O. Smith, E. R. Davis, J. M. Goodwin, C. R. Raup, Cliff Merwin, F. S. Dengler, Martin Wagner, H. O. Preston, C. W. Horan, C. E. Yates, P. W. Gauss, J. K. McGoldrick, H. L. Stewart, J. B. Haden, O. R. Burden, J. B. Alleman, Ben Dennis, Guy Johnson, B. C. Walker, R. L. Layton, P. J. Lauman, R. L. Worden, Ernest Carroll, M. K. Hunter, P. W. Stone, T. J. Casbeer, A. E. Nauwald, Arthur Lefevre, and F. J. Roosseaux.

W. S. S. Rodgers, left, president of The Texas Company, New York and T. J. Donoghue, right, vice president, Houston, are shown greeting each other at the 35th anniversary of The Texas Company at a banquet given in Houston by Old-Timers of the Company.

Continues Favorable

CRUDE MARKET IS STRONG AS GASOLINE STOCKS GOING DOWN

THE market outlook continues favorable. The crude markets remain strong, and hope persists among producers that crude postings will be increased further this spring.

The markets for refined products, similarly, continue firm, and some further slight improvement has occurred in the wholesale and retail prices of gasoline.

At the Oklahoma refineries late last week some gasoline still was available at the minimum prices of the week before, but in some instances refiners were asking an eighth-cent a gallon higher price.

Better Crude Control

The general situation is comparatively bright, in view of the stricter crude production allowables that are in effect in April in the leading producing states.

These allowables are expected to restore the balance between production and demand, and to stop the additions to storage that have been under way for about two months.

Further Storage Increase

That the more strict allowables are needed is evidenced by the fact another large addition to storage occurred during the week ended March 27, latest date for which the Bureau of Mines has reported on the crude stocks. In that week the crude stocks increased 2,032,000 barrels, to a total of 293,587,000 barrels.

Storage had been increasing every week since January 23. Within the 9 weeks from January 23 to March 27 the stocks of crude were increased 8,376,000 barrels. That substantial increase occurred in consequence of the liberal allowables prescribed by the leading producing states for February and March.

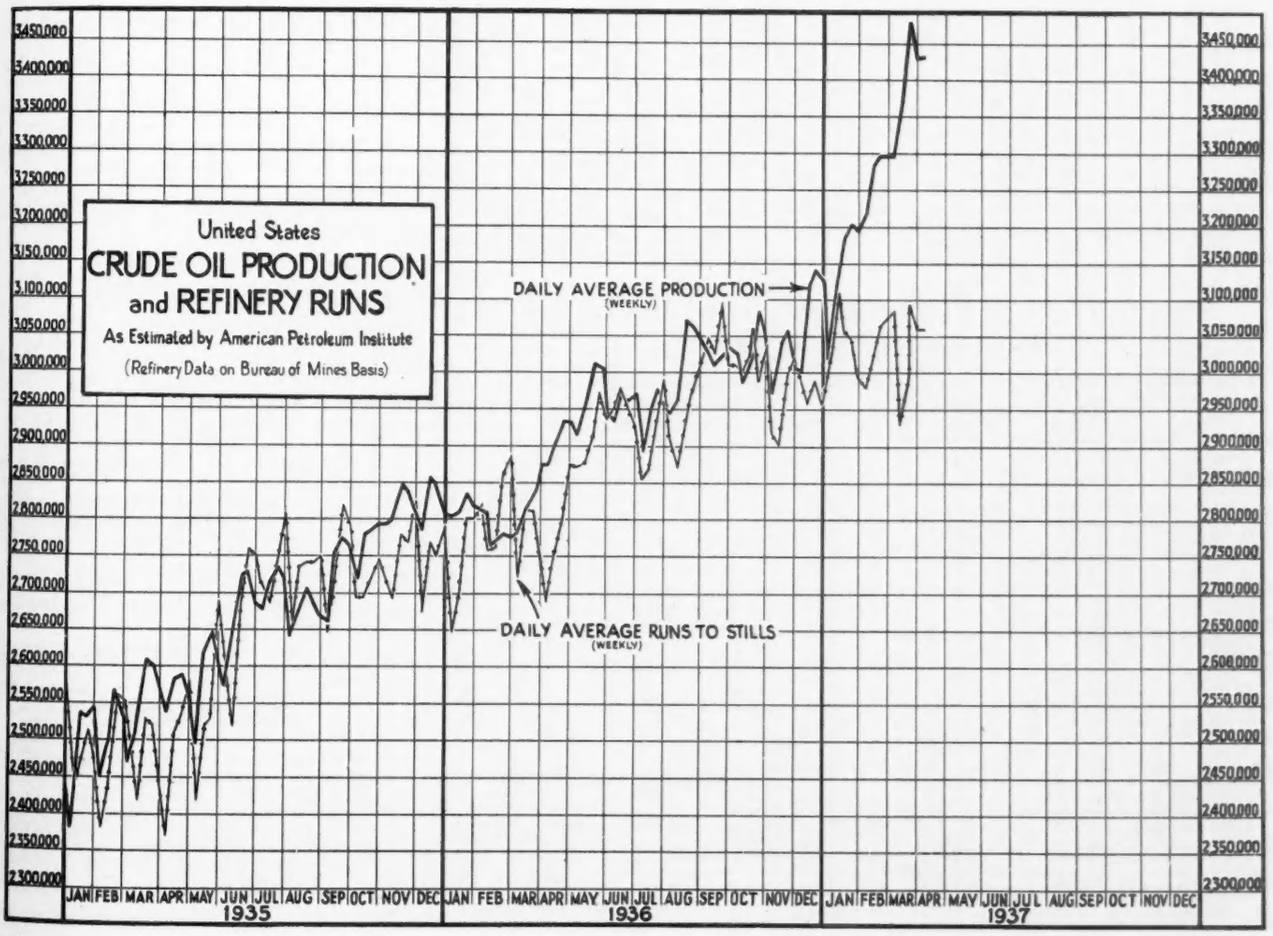
Gasoline Stocks Decline

Gasoline inventories at last began to decline in the week ended April 3, coming down 381,000 barrels from the all-time peak of 83,538,000 barrels reached March 27. Gasoline stocks are about 14 percent larger than at this time last year. Gasoline demand is running about 10 percent higher, indicating that the greater inventories are largely justified.

Gasoline Prices

Late last week U. S. motor gasoline prices f.o.b. Oklahoma refineries ranged from 5 to 5¼ cents a gallon for the 62 octane and below; from 5⅜ to 5½ cents for the 63 to 67 octane; and from 6 to 6¼ cents for the 68 to 70 octane material.

Corresponding prices in the Chicago



market were: 5 to 5⅛ cents, 5¼ to 5⅜ cents, and 5¾ to 6 cents.

At East Texas refineries the usual 60-62 octane, 400 end point gasoline on the market was unchanged at 5 cents a gallon.

Kerosene and Fuel

Kerosene prices at the Oklahoma refineries continued last week within a range of 4⅛ to 4⅜ cents a gallon for the 41-43 water white grade and from 4¼ to 4½ cents for the 42-44 water white grade. Corresponding prices in the Chicago market were 4⅛ cents, and 4⅛ to 4½ cents.

In the Chicago area the No. 1 white burning oils were priced at 3⅞ to 4 cents a gallon, and the No. 1 straw at 3¾ to 3⅞ cents. The No. 2 straw was 3⅜ to 3⅝ cents, and the No. 2 dark from 3⅜ to 3⅝ cents. No. 3 oils were 3¼ to 3⅜ cents.

For industrial use the No. 4 heavy oils were priced at $1.07½ to $1.12 a barrel, the No. 5 grade at 80 to 90 cents, and the No. 6 at 75 to 80 cents.

CRUDE PRICES

Complete table of prices paid for crude oil at the well in principal fields will be found on page 96 of The Oil Weekly, April 5, 1937. Hereafter this schedule will appear only in the first issue of each month except when changes are announced.

AUCTIONS ALLOWED

Austin.—Both Houses of the Legislature have approved bills, which will allow the University of Texas Leasing Board to dispose of leases by auction. The bill has not been contested in either house.

The University has held auctions during the latter part of 1936, and has found that this method of leasing is much more profitable than the method formerly employed, which was to allow purchasers to file sealed bids.

PLANT OPERATING

Amarillo, Texas. — Witco Carbon Company, Houston, has completed and placed in operation 50 percent of the units in its contracted 80,000,000 cubic foot daily capacity carbon black plant in the Sunray-Dumas sour gas area, Moore County. Plant is owned jointly by Continental Oil Company, R. I. Wishnick, New York City, and Shamrock Oil & Gas Company, and uses residue gas from the latter's 230,000,000 cubic foot capacity well pressure natural gasoline plant on the McKee tract.

TO ADD BOOSTER

Tyler, Texas. — Humble Pipe Line Company will increase the capacity of its 8-inch natural gasoline line, extending from East Texas to Baytown terminal on Houston Ship Channel by installing an intermediate booster station near Hearne. The company will erect a Diesel electric power plant, using three 350-horsepower units, and will boost the rated capacity of the line from 9000 barrels to 13,000 barrels daily. This carrier has been in operation since last July.

DELAY PRICE QUIZ

Austin. — Hearings to determine whether prices paid for West Texas crude are discriminatory have been delayed again by the joint legislative price investigating committee.

The committee has requested that the Humble, Texas, and Shell companies furnish detailed information on refinery runs of West Texas crude, although the committee has no authority to require that this data be filed. However, in its request, the committee asked that the report cover the past ten year period.

EXERCISE OPTION

Dallas.—Lion Oil Refining Company, El Dorado, Arkansas, has exercised option taken last January 5 to purchase stock control of the E. L. Smith Oil Company, Mexia, Texas, at $8.50 per share. The option expired April 1, and a majority of the outstanding stock was turned in some weeks ago. E. L. Smith Oil Company's principal holdings included 10 leases with 41 wells in East Texas field.

Weekly Trends of United States Production and Stocks

(Figures American Petroleum Institute, except crude stocks, Bureau of Mines.)

WEEK ENDED—	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	Gas & Fuel Oil Stocks (Barrels)
January 2, 1937	3,121,400	3,030,000	287,659,000	62,661,000	106,330,000
January 9	3,117,800	3,110,000	286,912,000	65,402,000	105,971,000
January 16	3,184,650	3,045,000	286,044,000	66,559,000	104,841,000
January 23	3,205,150	3,055,000	285,211,000	68,180,000	103,441,000
January 30	3,194,050	2,995,000	285,384,000	69,540,000	102,078,000
February 6	3,220,750	2,980,000	286,116,000	70,535,000	101,136,000
February 13	3,286,050	3,020,000	286,158,000	73,585,000	100,735,000
February 20	3,295,950	3,065,000	287,574,000	74,798,000	99,391,000
February 27	3,296,100	3,085,000	288,121,000	78,786,000	99,534,000
March 6	3,298,800	2,930,000	289,611,000	80,102,000	99,115,000
March 13	3,372,850	2,985,000	290,613,000	81,236,000	98,964,000
March 20	3,448,150	3,095,000	291,555,000	81,623,000	97,287,000
March 27	3,431,300	3,060,000	293,587,000	83,538,000	96,591,000
April 3	3,422,350	3,005,000	.....	83,157,000	95,805,000
April 4, 1936	2,873,900	2,690,000	312,974,000	73,310,000	95,954,000

Summary of Wells Completed in the United States Week Ending April 10, 1937

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total, 1937	Total this Date 1936
Alabama	....	....	....	....	.....	1	2
Arkansas	3	1	....	2	118	21	28
California	23	20	1	2	11,480	332	270
Colorado	1	....	....	1	.....	6	5
Florida	....	....	....	....	.....	....	....
Illinois	....	....	....	....	.....	11	4
Indiana	....	....	....	....	.....	33	66
Kansas	57	48	1	8	48,178	589	391
Kentucky	....	....	....	....	.....	51	39
Louisiana	11	8	2	1	2,355	185	265
Michigan	15	9	2	4	3,925	209	184
Mississippi	1	....	....	1	.....	6	1
Montana	3	2	1	....	241	22	24
Nebraska	....	....	....	....	.....	....	....
New Mexico	10	9	1	....	16,335	190	129
New York	....	....	....	....	.....	3	....
Ohio	27	5	14	8	67	453	556
Oklahoma	72	48	3	21	59,592	786	704
Pennsylvania	6	3	1	2	20	45	....
Texas	341	246	10	85	425,142	3,784	3,159
Utah	....	....	....	....	.....	....	....
West Virginia	21	7	7	7	61	241	177
Wyoming	4	3	....	1	2,225	31	14
Total this week	595	409	43	143	569,739	6,999	6,008
Total last week	445	322	34	89	368,392	....	....
Total this year	6,999	4,689	642	1,668	6,029,003	....	....

Comparison of Permits Granted For New Wells

STATE	Week Ending April 10	Total this Mo.	Total this Year	Total this Date Last Year	1936 Year Total
Arkansas	5	12	47	23	103
California	47	78	390	233	1,054
Louisiana	7	13	225	311	1,107
Kansas	61	125	638	454	1,873
Michigan	16	16	224	173	762
Oklahoma	74	134	745	756	2,594
Texas	412	732	4,824	3,567	15,582
Total	622	1,110	7,093	5,517	23,075

Crude Output Down

REDUCED ALLOWABLES ARE REVEALED IN WEEK'S RESULTS

UNITED STATES crude oil production in the past week, ended April 10, was 17,425 barrels a day lower than in the previous week, having averaged 3,401,425 barrels daily. That was 158,425 barrels a day more than the Bureau of Mines recommendation for average daily output of the country's wells in April.

The lower production of last week was due to reduced output in Texas, Oklahoma and Kansas. Decreases in those states more than offset increases in California, New Mexico and Louisiana.

Reflecting sharply curtailed allowables for April, compared with those in March, Texas last week averaged 1,347,600 barrels daily, or approximately 50,000 barrels a day less than in the previous week. The new output was within 49,700 barrels a day of the Bureau of Mines recommendation.

Oklahoma last week averaged 641,625 barrels daily, or about 7,000 barrels a day less than in the previous week, and 32,025 barrels a day more than the Bureau of Mines allocation.

Kansas showed a decline of 10,400 barrels in averaging last week 178,775 barrels daily. That was 4225 barrels a day less than the Bureau of Mines recommendation.

California output was up 44,000 barrels at 629,000 barrels daily, which was 49,100 barrels a day more than the federal allocation.

New Mexico, with larger allowables, last week averaged 106,200 barrels a day, or about 3,000 barrels a day more than in the preceding week and 14,800 barrels a day more than the federal quota.

Louisiana production last week was up 3425 barrels at 244,825 barrels daily, which was almost exactly in conformity with the Bureau of Mines recommendation.

BUYS PROPERTIES

El Dorado.—Lion Oil & Refining Company has purchased Ohio Oil Company's producing properties in Arkansas, except in the Stephens field, which were retained on the strength of its deep production potentialities. The deal is reported to involve 475 barrels of daily production in the Rainbow-Champanolle area, 300 barrels daily in the Smackover north extension area, and 50 barrels daily at Louann.

Austin, Texas.—The Texas House of Representatives has finally passed House Bill 198 by more than 100 votes. This is the bill providing for an increase in the tax on natural gas.

The house at first provided for an increase from 3 percent to 3¾ percent of the value of the gas. However, before the bill was sent to the senate, this was amended to provide for an increase from 3 percent to 4 percent. Approximately $279,000 a year would be brought to the state treasury by this increase.

However, the senate has shown little inclination to report out of committee tax bills sent over from the house, and many observers are of the opinion that there will be no tax increase on natural resources at this session. They expect a special session to be called later this year at which a vigorous attempt will be made to provide for a sales tax.

UNITED STATES CRUDE OIL PRODUCTION

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in April)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING	
		April 10	April 3
TEXAS—			
Texas Panhandle	.....	72,800	77,800
North Texas	.....	66,500	68,200
West Central Texas	.....	32,200	33,100
West Texas	.....	190,100	207,800
East Central Texas	.....	110,600	121,100
East Texas Field	.....	456,600	455,800
South Texas	.....	226,700	227,200
Texas Gulf Coast	.....	192,100	206,300
Total Texas	1,297,900	1,347,600	1,397,300
OKLAHOMA—			
Oklahoma City	.....	165,425	164,400
Seminole Area	.....	131,900	131,500
Crescent	.....	12,575	14,550
Lucien	.....	13,500	13,225
Fitts	.....	84,025	88,375
Edmund	.....	24,375	23,750
Moore	.....	12,050	13,700
Others	.....	197,775	199,225
Total Oklahoma	609,600	641,625	648,725
KANSAS—			
Ritz-Canton	.....	5,400	5,400
Chase	.....	8,250	10,275
Hollow-Nikkel	.....	4,100	4,075
Sedgwick	.....	4,775	16,375
Burrton	.....	16,450	5,350
Lorraine	.....	4,425	28,375
Russell County	.....	25,250	17,800
Silica	.....	15,325	17,800
Others	.....	94,800	96,825
Total Kansas	183,000	178,775	189,175
LOUISIANA—			
North Louisiana	.....	69,725	65,300
South Louisiana	.....	175,100	176,100
Total Louisiana	244,800	244,825	241,400
ARKANSAS	27,400	27,300	27,500
CALIFORNIA—			
Long Beach	.....	61,500	60,100
Santa Fe Springs	.....	45,000	44,200
Huntington Beach	.....	39,500	35,600
Dominguez	.....	24,500	24,400
Inglewood	.....	15,500	12,200
Ventura Avenue	.....	35,000	32,700
Seal Beach	.....	10,000	9,100
Midway-Sunset	.....	74,000	65,900
Elwood	.....	9,500	9,400
Kettleman Hills	.....	78,000	76,050
Mountain View	.....	20,500	20,300
Playa del Rey	.....	9,500	9,300
Others	.....	206,500	186,000
Total California	579,900	629,000	585,000
MOUNTAIN STATES—			
Wyoming	44,000	50,200	51,200
Montana	14,600	15,300	15,800
Colorado	4,800	4,500	4,600
Total Rocky Mountain States	63,400	70,000	71,600
NEW MEXICO	91,400	106,200	103,400
EASTERN STATES	115,000	116,300	115,400
MICHIGAN	30,600	39,800	39,100
Total United States	3,243,000	3,401,425	3,418,850

Tanker Construction

LEAPS FORWARD AT AN UNPRECEDENTED RATE

By DENIS S. SNEIGR

DURING the past year, tanker construction has leaped forward at an unprecedented pace—especially in Great Britain and the United States. In the latter country Standard Oil Company of New Jersey led the field with orders for eight new tankers and a hint that more orders may be forthcoming in the near future. Besides these eight oil carriers for Standard Oil Company of New Jersey, there are 13 others building in the United States for six oil companies.

In England, British Tanker Company has ordered 18 new ships. Norway, Holland, Denmark, Germany and Japan all have tankers under construction. For the first quarter of 1936, Lloyd's Register of Shipping reported 76 tankers building throughout the world.

This ambitious construction program is due to two causes: first, the rapid deterioration and obsolescence of tanker fleets; and second, the increase in the foreign and domestic demand for petroleum and its products. In some quarters the growing fear of war is said to be the motivating force behind the rapid increase in tanker construction.

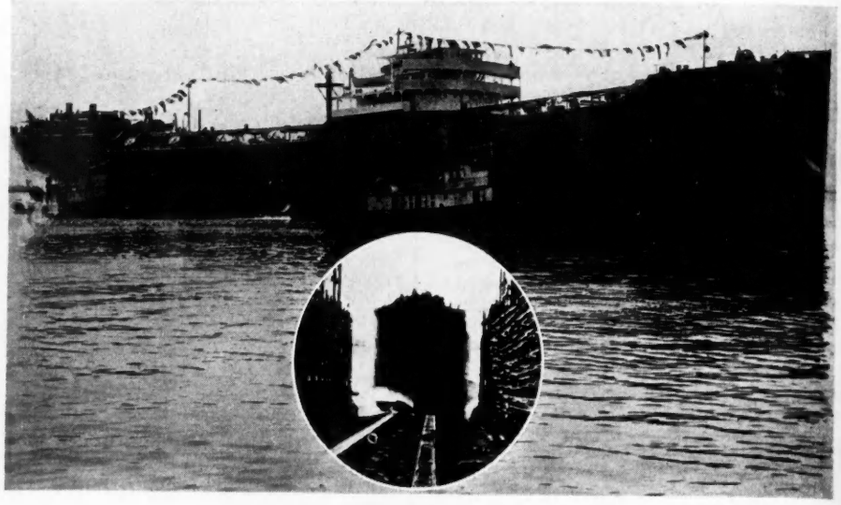
However, with the United States tanker fleet practically 100 percent active at the beginning of this year, the necessity for new vessels is obvious. Many of the tankers now in service for British and American companies were built about 15 years ago. Such ships may be said to have reached the end of their period of economically useful service and hence replacements are necessary. Also, many vessels constructed immediately after the World War are subject to severe corrosion due to an inferior quality of steel used in their hulls. In fact, a British company recently sold nine such tankers for scrapping.

In the United States the latest report shows 21 tankers under construction. Eight of these are for Standard Oil Company of New Jersey; four for Gulf Oil Corporation; four for Pan American Petroleum and Transport Company; two for Socony-Vacuum Oil Company; and one each for The Texas Company, Sun Oil Company, and Atlantic Refining Company.

The eight ships for Standard Oil of New Jersey will cost more than $13,000,000 and will provide about 7,000,000 hours of labor. Four of these tankers will be similar to the R. P. Resor and the T. C. McCobb, two Standard tankers recently launched. These four will be of 12,800 tons deadweight. Two of the eight will be of 12,900 tons deadweight. The remaining two ships will be built with special fluted plating bulkheads which will be used for the first time.

These tankers will have a loaded speed of 12 knots, driven by a single screw and powered by high pressure steam turbines operating through a double reduction gear. The delivery dates are for September, 1937, and February, 1938.

The two tankers mentioned above, the R. P. Resor and the T. C. McCobb, were the first of a particular design to be built in the United States. The two advantages of this design are greater capacity for cargo and maintenance of propulsive efficiency at sea. Model tests by the British and the United States governments showed a savings in power at a given speed of from 13 to 15 percent over the ordinary tanker forms.



A new tanker taking to the water

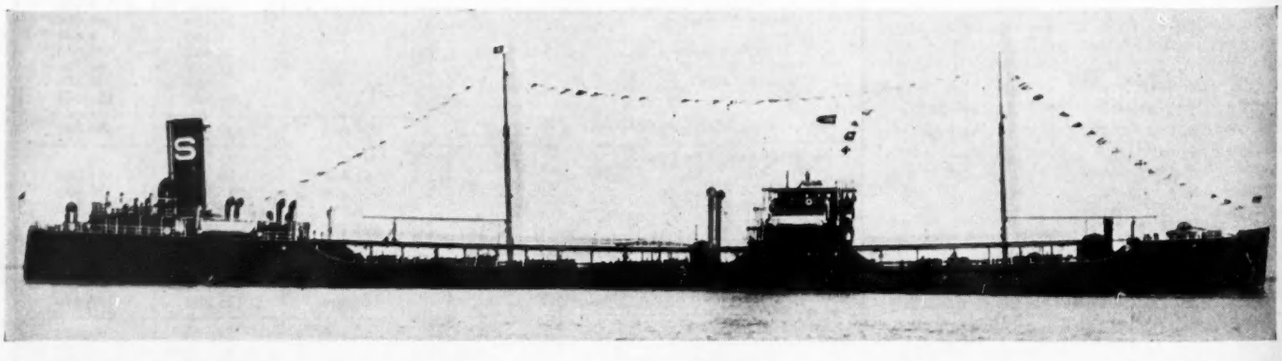
Characteristics of these two tankers are:

Length overall	445	feet
Length between perpendiculars	435	feet
Beam molded	66.5	feet
Draft loaded	28	feet
Displacement	16,750	tons
Deadweight capacity	12,500	tons
Shaft horsepower	3,000	
Propeller speed	90	r.p.m.
Trial speed guarantee	12.5	knots
Cargo tank capacity	100,000	bbls

Great Britain Active

In Great Britain there are 18 tankers building at four ship yards for British Tanker Company, Ltd. Each of these vessels will have a deadweight of 12,250 tons, propelled by a single screw. Nine of these ships will be powered by opposed piston reversible Diesel engines (two stroke airless injection). These engines

[*Continued on page 77*]



One of the largest tankers in the Socony-Vacuum fleet. More than 500 feet long, it has a tank capacity of 130,000 barrels

Edited by
WM. V. GROSS, Associate Editor

Pure Asphalt Bed

MAY EXIST NEAR SHORE OF DEAD SEA, STUDENT SAYS

By RUDOLPH SEIDEN, C. E., Kansas City, Mo.

OLDEST and best known among asphalt occurrences is that of the Dead Sea. Many investigations have been published regarding the water of the Dead Sea and the asphalt that floats on its surface. It is called "Syrian Asphalt" and is almost the purest bitumen in the world, as well as a valuable raw material.

Although the chemical composition of Dead Sea water—a saturated salt solution—and of asphalt was not known to the ancients, they could distinguish the water of the Dead Sea from all others and appreciate the high value of the asphalt which they found there.

Lacus Asphaltitis in Christ's Time

Vitruvius, who lived at the time of Christ, reported in his work "De Architectura," book VII, that "near Babylon is a great asphalt sea upon which melted asphalt floats." The Dead Sea at that time was known as "Lacus Asphaltitis," which means asphalt sea.

Diodorus Siculus was the first writer to use this term and in his work "Bibliotheca," book XVI, chapter 40, he writes that "twenty days before the appearance of bitumen on the asphalt sea a strong smell arises from its water, in which copper, gold and silver lose their color." This property suggests that the smell mentioned came from a gas which contained sulphur.

Strabo's Volcanic Origin Theory

Strabo writes in his "Geographica," book XVI, "The surface of the Dead Sea lifts itself in a great swell from which flows the liquid asphalt, while simultaneously great clouds of black smoke arise. The asphalt, made liquid by subterranean heat, spreads over the surface of the water and quickly cools and becomes solid. Natives bind together crude rafts when the asphalt appears, row out and break up the asphalt clumps into smaller pieces and carry them ashore."

The opinion persists even today that this asphalt arises from the bottom of the Dead Sea. Most believe however that the asphalt is melted by hot springs which empty into the Dead Sea. In any case the observations of Strabo in his investigation of this mysterious appearing natural phenomenon cause one to wonder. He maintained that the asphalt is of volcanic origin.

Biblical References

Three references to Dead Sea asphalt are found in the Bible: the description of Noah's ark; the reed-basket, in which the infant Moses lay; and the Tower of Babel. And in the Book of Esther we read of a riddle, the solution of which the Queen of Sheba gave wise King Solomon; here also is the Dead Sea asphalt mentioned. (Besides: Another bitumen, oil is mentioned in the Second Book of Machabees; and in Talmud, Sabbath 26, it is written: "White 'mahta,' because of his fear of fire, is not allowed to be burned, especially on Sabbath.")

Early Uses of Jewish Tar

For what was Dead Sea asphalt—also known as "Jewish Tar"—used by the ancients? Josephus and Plinius assert that it was used as a remedy by the Jews for several ailments. Diodorus writes that it was used by the Egyptians in the embalming process. The composition of the material used by the Egyptians is not known today, but at any rate it is known that asphalt was used in the embalming process; this possibly explains the preservation of mummies for hundreds of years.

Asphalt was also used for the protection of iron against rust—as it is even today—and as a coating for vessels in which liquids were to be kept. In Babylon bricks were asphalt dipped; especially if they were to be used in foundations—like we use bitumen in order to keep out dampness from basement walls. Finally, boats plying the Euphrates were doubtlessly caulked with an asphalt compound; these singular basket-shaped boats called "Guffas" can still be seen in use today. I saw them often in Palestine and Syria.

From these short accounts we can see that even in antiquity, the Dead Sea asphalt found many applications and that much of the practice of which our present day science and technique prides itself was in use a thousand years ago in Palestine and its neighboring countries.

In old books, and especially in the Bible, one can find many statements about Dead Sea asphalt which would not seem out of place in a modern book! The technique of our forefathers was better than most believe. And it would pay to investigate this further.

I am sure that if the historians and technicians desire to work together they will reap a rich reward from the untold and unscrutinized papers of the antiquity.

Early History of Drilling

I want to add here a few words upon the Dead Sea asphalt as I investigated it during my visits in Palestine, and the history of the oil drilling in the last 35 years in this part of the Near East.

Dead Sea asphalt, also called "Judenpech" (Jewish tar), "El Houmar" or "Ayoun Houmar" in Arabic, often is named "Syrian Asphalt." It is more desirable than Trinidad asphalt; it is cleaner, and the content of bitumen is 98.9-100%. The samples I obtained from Bedouins on the Dead Sea were black, brilliant, very hard fragments; the hardness was between 3 and 4 (Mohs—scale), the specific gravity averaged 1.103. The Dead Sea asphalt is not only the best, but also the rarest of asphalts; it is therefore the most expensive and will probably be used in the future only for the manufacture of the finest lacs and for asphalt-printing in the photography (Askau-process).

Believes Deposit Exists

Prof. Blanckenhorn believes that near the shore of the Dead Sea, west of Shebel Usdum, there is a rich deposit of pure asphalt. Hot springs at this place and other creeks carry a half melted asphalt to the sea, where it soon hardens and floats on the surface of the water (specific gravity 1.158).

Existence of Dead Sea asphalt appears to support speculations that oil will be found in Palestine. Palestine lies in the petroleum zone of Mesopotamia-Egypt, and before the World War 125,000 tons of oil yearly were taken here, near the port of Suez, from wells 1300 to 1800 feet deep. Also before the war, the "Syrian Exploration Company," possessed drilling rights in Wadi el Arab (on the west coast of the Dead Sea), and near El Makarim, where they drilled to 520 feet without striking oil.

In 1913, the Standard Oil Company struck oil near Kornub, 22 miles east of the south shore of the Dead Sea. In 1917, the Germans drilled without success near Katrani on the Hejaz railway.

In spite of these negative results, there might be a possibility of striking oil in this district at greater depths.

The Dead Sea in early times, as other seas, had supported an abundant sea-life, but the steadily mounting salt content (to-

day 23.49% on surface and 27.81% at 900 feet!) killed the fish and all other life. Their bodies went into ooze (Sapropel) and in the Engler-Höfer sequence, into oil and finally into asphalt.

Future of Oil There

As the Dead Sea region is one of the hottest points and the lowest place on the earth's crust (about 1300 feet under the surface of the Mediterranean Sea), it is not impossible in my opinion, that the transition from oil to asphalt took place here more rapidly than elsewhere and therefore perhaps not much oil will be found here.

At least, I want to remember that in the old books, mentioned in the beginning of this article, Palestine oil never was described, but asphalt often. Up to today, there has been found asphalt, but not oil.

As to whether the future will bring a change, this article is an historical and not a prophetic one.

Plan Many Tests

TURNER VALLEY NORTHWEST OUTPOST IS SMALL WELL

With indications that Royalite Oil Company's Dalhousie 8, a wildcat, is at best a small producer, and possibly a dry hole, oil interest in Turner Valley, Alberta, Canada, shifted last week to new work and plans for extensive summer development.

Located six miles northwest of Royalite Oil Company's Sterling Pacific 4, brought in a week ago as a 1,200-barrel producer, Dalhousie 8 stopped drilling at 6,910 feet and made preparations to clear rotary fluid. S. F. Heard, Dalhousie official, refused to concede the well a dry hole and declared that it was still being worked.

Deal Calls For Several Tests

A deal under which Royalite Oil Company will drill a series of wells on Calgary & Edmonton Corporation holdings in Turner Valley headed new development announcements of the week. Included in this program is Sterling Pacific 5, spudded a month ago and now drilling below 2,000 feet. While neither number nor location of wells to be drilled have been announced, it was indicated that this program would exceed other operations on Calgary & Edmonton Corporation land.

Plans for 16 other wells to be drilled on Calgary & Edmonton Corporation acreage are completed, and four are already drilling: Prairie Royalties on Legal Subdivision 16, Section 17, Township 18; Sundance Royalties on Legal Subdivision 9, Section 17, Township 18; Coronation Royalties on Legal Subdivision 10, Section 17, Township 18, and Mercury Royalties on Legal Subdivision 8, Section 5, Township 19. Other companies who have completed plans to drill this spring are: North American Petroleums on Legal Subdivision 10, Section 5, Township 19; D. and D. Company, Limited, on Legal Subdivision 12, Section 9, Township 18; National Petroleum, Limited, on Legal Subdivision 14, Section 9, Township 18; Economy Royalties, Limited, on Legal Subdivision 8, Section 9, Township 18; Soturn Oils, Limited, NE Section 5, Township 18; West Flank Petroleums, Limited, NE Section 19, Township 18; Flank Petroleums, Limited, NW section 17, Township 18; Calberta Petroleums, Limited, Legal Subdivision 10, Section 9, Township 18; Alturner Oils, Limited, Legal Subdivision 4, Section 9, Township 18; Brown Oil Corporation, Legal Subdivision 15, Section 18, Township 19; Continental Oil Company, Limited, Legal Subdivision 1, Section 19, Township 19; Marine Petroleums, Limited, Legal Subdivision 11, Section 9, Township 18.

Two Scheduled For Taber

Rosemount Oils, Limited, announced plans to drill one well in South Turner Valley and two in the Taber area. Taber structure was recently proven by Plains Petroleum, Limited, whose well is now yielding about 40 barrels of oil along with the same amount of water at 3,250 feet.

National Petroleum Corporation spudded No. 2 last week on Legal Subdivision 14, Section 9, Township 18, Range 2—the farthest south location in Turner Valley where active development is underway. Equipment consists of a standard tool outfit and a 136-foot derrick. The company has installed its own pumping plant at the Highwood river, capable of supplying water requirements of several additional rigs if required. A derrick is being erected at this company's No. 1 on Legal Subdivision 8, Section 29, near the B. and B. Royalties well and Royalite's Sterling Pacific 4, both large producers. New rotary equipment is expected this week. Location of National Petroleum 3 has been selected on Legal Subdivision 15, Section 32, Township 18, Range 2, placing it just opposite Sterling Pacific 4 from National Petroleum 1.

Kootenay Test Shows Gas

The deep test of Roxana Petroleums, Limited, on the Kootenay Dome west of Calgary reported 2,000,000 cubic feet of gas from 1,312 feet. The lime has changed in color and drillers are required to take special precautions to protect their eyes as the gas is of a poisonous nature.

R. A. Brown, Jr., president of B. and B. Royalties, announced plans to drill a well on North American Petroleums, Limited, acreage, three-quarters of a mile northwest of Mercury Oil Company's 4.

The deepest test drilling in Turner Valley, Richland Oil Company's No. 3, has an oil showing just above the Home sands, at about 5,000 feet. The site is just south of Century Royalties and east of Turner Valley Royalties. Richland 1, between B. and B. and Turner Valley Royalties, is drilling at 1,500 feet. Richland 2, just south of B. and B., is cleaning out and carrying casing around 3,000 feet.

Vast Area May Get Play

Canadian oil men look for an influx of United States capital for developing potential oil territories in western Canada. Along with northeastern Montana and North Dakota, it is believed that southeastern Alberta, southern Saskatchewan and southwest Manitoba are all in line for exhaustive testing. The recent leasing of 100,000 acres by The California Company on the Nesson anticline, east of Elliston, North Dakota, is considered the first shot in a new campaign that, if successful, will open a new area of vast size for exploitation.

The finding of deep oil in beds of Mississippian Age or older on the Baker-Glendive anticline in southeast Montana at a depth of 6,500 feet shows that those beds can produce oil in commercial quantities. The same beds should be encountered around 5,000 feet in the Nesson anticline, and shallower in areas to the north. Four hundred miles north on the Alberta-Saskatchewan boundary at Lloydminster, commercial gas wells have been found. An area 600 miles long and 500 miles wide will be open to active exploration as a potential gas and oil area—the largest practically untested area on the north American continent.

Calls For Geophysics

A large part of the area is covered with glacial drift so that most of it will be determined by geophysical and subsurface geological methods, but parts of the area can be defined by surface geology. Enough showings of gas and oil are evident in the few wells drilled throughouut the area, and from seepages in Manitoba, to attest that such beds are possible petroliferous zones.

Recent fields opened in southern Alberta near the United States boundary evidence the importance of that area, but other favorable areas exist in southeast Alberta, Saskatchewan and Manitoba. The geo-syncline between the Rocky mountains and the Canadian shield was formerly thought to be too devoid of folding to be favorable for gas and oil. This idea is believed disproven by the Lloydminster and other structures far north on the Canadian side and the Nesson anticline and other folds on the United States side.

AUSTRIA GROWING

Austria's output of 12,000 metric tons of crude oil in 1936, while insignificant in comparison with production figures from other oil producing nations, represents Austria's peak year since oil was discovered there. Moreover, in December of 1936, Austria's crude production had increased to 1500 tons per month, indicating a recovery of around 18,000 tons, or 126,000 barrels, in 1937.

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ATLAS EXPLOSIVES

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OKLAHOMA FIELDS

New South Oklahoma oil field is in prospect

* * *

Wellston area extended south by good well

* * *

Field work holding at high and steady rate

Tulsa.—A new producer in Lincoln County and a new Cromwell sand producer in the Fitts field of Pontotoc County, were highlights of activity in this sector of Oklahoma last week.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Clark 1, SWc NE 35-15n-2e, north of Wellston in Lincoln County, is the new producer for that area. The well had Skinner sand at 4574 feet; Viola lime at 5040 feet; Wilcox sand at 5150 feet, and set pipe at 5035 feet. After drilling the plug, the hole filled 1600 feet with oil from 5148 feet, but showed no gas. After running tubing and swabbing, operators found no increase in the production. The well was then drilled 4 feet to 5152 feet and began making about 20 barrels of oil an hour.

Amerada Petroleum Corporation's Holik 1, CSE NW 10-12n-5e, south of Wilzetta in Lincoln County, swabbed and flowed 357 barrels of oil in 23 hours through tubing, cutting 4 percent salt water and basic sediment. After being acidized the well made 160 barrels of oil and 18 barrels of water in 18 hours. It is bottomed at 4335 feet in the Hunton lime, and on another 18-hour test, made 103 barrels of oil and 10 barrels of water, swabbing and flowing. Testing was to be continued.

Wellston Area Extended

Sun Oil Company extended the Wellston area to the south when its Arinwine 1, NE SW SE 35-15n-2e, came in as a producer from the Wilcox sand at 5099 feet. The well was acidized with 3000 gallons and made 485 barrels of oil in 12 hours and 388 barrels of oil the next six hours, and was then shut in.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation staked location for Crawford 2, NWc SE 35-15n-2e, a south offset to the new producer. Transwestern Oil Company has staked location for W. O. Allen 1, SEc NW 35-15n-2e.

The new Cromwell sand producer for the Fitts field of Pontotoc County was E. H. Moore's Harper 2-A, SW SE NE 29-2n-7e, which drilled to 2572 feet in the formation and made 25 barrels of oil in 1 hour on gas lift. It was drilled to 2602 feet and made 474 barrels of oil in 13 hours. Testing was being continued.

Ardmore.—Possibility of opening a new oil field in Southern Oklahoma was forecast last week as Carter Oil Company and Skelly Oil Company's Harley-Community 1, C NE NE 24-2s-4w, in the Milroy sector of Stephens County, had a good show of gas and oil in the Hunton lime.

First show was had in a core taken from between 4370 and 4377 feet, showing 2 feet of brown dolomite, 1 foot of green shale and 3 feet of the lime, hearing oil. Seven feet of lime was had in the second core, taken between 4377 and 4387 feet, and which had an even better showing of oil than the first core.

Harley-Community 1, located in the center of the northeast 40 acres, is to be an 8200-foot test. Those interested in the tract include Carter Oil Company with 57 percent; Magnolia Petroleum Company 20 percent; Skelly Oil Company 15 percent and Mude Oil Company, 8 percent.

Field men report the well is running nearly 400 feet higher than Carter Oil Company's Ruth Williams 1, SW NE SW 28-2s-3w, across the line in Carter County, which is producing from around 8108 feet in Viola lime, topped at 7006 feet. Top of the lime in Harley 1 was thought to be at 4374 feet.

Royalty interest mounted rapidly in the area as operations were carried ahead at the well. The land nearest the test jumped from $50 per acre to $250 and higher.

Activity Increasing

Increased activity in the field was shown last week as numerous locations were made and other tests started active operations. Amerada Petroleum Corporation staked location for 4 new wells which were, Wooley 12, SE NE NW 22-2n-7e; Woodley 13, SW SE NW 22-2n-7e; Wooley 17, SEc NW 22-2n-7e, and Wooley 18, SWc NE 22-2n-7e.

E. H. Moore also made 4 locations, which were for Akers 15, NE SW NE 36-2n-6e; Akers 16, NW SW NE 36-2n-6e; Scharer 7-A, SEc NW 29-2n-7e and Ingram 2, SW NE NE 22-2n-7e.

Phillips Petroluem Company made location for Norris 17, SEc SW 25-2n-7e, a twin to Norris 24.

Tests which were starting operations included E. H. Moore's Wirick 6-A, NEc SW 29-2n-7e, digging cellar; Moore's Woodruff 3-B, NE NW SE 29-2n-7e, cellar completed. Navarro Oil Company's Horn 1, NEc SE NE 22-2n-7e, was in the cellar.

Completions throughout the field were numerous, E. H. Moore's Mack 2, SE NW SE 28-2n-7e, made 781 barrels of oil from the Hunton lime. Simpson-Fell completed Westheimer 6, NE SW NE 26-2n-6e, for 2891 barrels of oil. J. E. Crosbie's Dawes Harden 4-B, SE SW NE 30-2n-7e, made 1381 barrels of oil from the Hunton lime on a 24-hour gauge. Sinclair Prairie Oil Company's Wooley 20, NE NW SW 22-2n-7e, was completed in the Hunton lime for 2483 barrels of oil. Burke-Greis Oil Company's Chambers 4, SE NE NW 36-2n-6e, made a Hunton lime potential of 3762 barrels of oil.

E. H. Moore's Deaner 2, SWc SE 23-2n-7e, most southeasterly Hunton lime test, drilled from 3716 to 3800 feet in lime and on a drill-stem test, flowed 496 barrels of oil in 90 minutes. While laving down drill pipe, the well flowed 290 barrels of oil an hour, and the crew was running tubing and preparing to take potential test.

E. H. Moore's Muse 1, SW NE SE 33-2n-7e, discovery well across the fault and south of production in the Fitts field, flowed 126 barrels of oil through tubing in 24 hours. April 5 the well flowed 41½ barrels of oil in 24 hours, and flowed 139 barrels of oil April 6.

Amerada Petroleum Corporation's Smith 6, SW SE NW 28-2n-7e, in the Hunton lime at 3500 feet, flowed 603 barrels of oil the first hour through casing and 425 barrels of oil the second hour through casing after being acidized with 15,000 gallons. The well later flowed 3203 barrels of oil in 24 hours.

Carter Oil Company's Richards 24, NE NW SE 30-2n-7e, flowed 27 barrels of oil in 9 hours from 3601 feet, bottomed in the Sylvan shale. The well was acidized with 6000 gallons before the flow. During an 8-hour test, the well flowed 96 barrels of oil, and began to look better as a Hunton lime producer.

Sinclair Prairie Oil Company's Moody 3-A, SEc NE 22-2n-7e, topped the Hunton lime at 3712 feet and drilled to 3846 feet where it established a potential of 3245 barrels of oil. It made 3,500,000 cubic feet of gas. The company's Wooley 20-B, NW NE SW 22-2n-7e, topped Hunton lime at 3648 feet and flowed 3482 barrels of oil in 24 hours with 1,630,000 cubic feet of gas.

Bishop Oil Company's Simpson 4-A, NE NW NW 28-2n-7e, topped the Hunton lime at 3448 feet and drilled to 3720 feet. It was acidized with 10,000 gallons and flowed 500 barrels of oil the first hour through casing. Potential was 3253 barrels of oil and 2,925,000 cubic feet of gas.

Also of interest to operators in the Fitts area was the staking of a location at the northern edge of the field by Ar-

row Drilling Company for Lewis 2, SWc SE 19-2n-7e. The same company's Lewis 1, SE SW SE 19-2n-7e, topped the first sand at 4368 feet and drilled to 4376 feet. It was acidized with 10,000 gallons and flowed 300 barrels of oil the first hour through casing and 180 barrels of oil the second hour through tubing. It was shut in to take potential.

Skelly Oil Company's Ingram 3, SE SW NW 23-2n-7e, set 2½-inch tubing at 3847 feet and washed in. In 1 hour the well made 256 barrels of oil and 3,000,000 cubic feet of gas. Acidized with 10,000 gallons, it flowed 320 barrels of oil the first hour through casing and was shut in for potential.

Skelly Oil Company's Park College 19, NW SW NE 28-2n-7e, had the Woodford shale at 3090 feet and the Hunton lime at 3295 feet. It was drilling below 3315 feet with a good showing of saturation.

North Earlsboro

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Smith 1, NE SW SW 3-10n-5e, in the North Earlsboro pool of Seminole County, made 95 barrels of oil and 239 barrels of water in 24 hours. It was bottomed at 4668 feet in the Wilcox sand.

Amerada Petroleum Corporation's Goodman 3, NW NE NE 5-10n-4e, in the Shawnee pool of Pottawatomie County, was shot with 20 quarts between 4395 to 4423 feet and swabbed 97 barrels of oil in seven hours. It had been drilled to 4427 feet.

Meanwhile, operators continued to develop newly found Airport pool northeast of Tulsa. The pool received an extension last week as Adams, Boyd & Purser's Fox Greenhouse 1, NEc 3-19n-13e, found Bartlesville sand at 1087 feet to 1109 feet and extended the pool about one-fourth of a mile to the southwest, and thus becoming the twentieth completion for the field. The new well forces the drilling of several offset tests. Operators plan skidding the rig to the very edge of the Greenhouse property to drill No. 2.

Oklahoma City Area Quiet

Oklahoma City.—This sector of Oklahoma remained comparatively quiet during the past week, with best production being reported for Noble County, in the north-central part of the state.

Best of the week was Shell Petroleum Corporation and Phillips Petroleum Company's McCaughtry 7, NE SW NE 21-23n-2w, in the Billings pool, which flowed 905 barrels of oil in 6 hours and made a 24-hour potential of 3523 barrels of oil and 2,500,000 cubic feet of gas. Production was from 4122 feet in the Wilcox sand.

The extension well in the Langston pool of Logan County, Eason Oil Company's Smith 1, SW NW NW 13-17n-1w, was shut in to a flow of 100 barrels of oil per day. The well produced 2625 barrels of oil in 23¼ hours on the last gauge taken, producing from 5128 feet in sand.

Gulf Oil Corporation's Allen 1, NE SW SW 27-10n-2w, in the Moore pool of Cleveland County, which at first looked like a dry hole, last week was plugged back from the Wilcox sand where salt water was encountered, to the Simpson at 7213 feet where it was shot with 120 quarts. The well then flowed 183 barrels of oil net in 8 hours.

Anderson-Prichard Oil Company's State 2, NW SW SE 16-10n-2w, flowed 751 barrels of oil into tanks, and approximately 200 barrels of oil into pits in 2 hours from the Wilcox sand at 7262 feet.

Mid-Continent Petroleum Corporation's Campbell 3, NE SE NE 33-17n-4w, in the Crescent pool of Logan County, drilled to 6120 feet in the Wilcox sand, and after drilling to 6117 feet made one flow of 30 barrels of oil. The flow was stopped because of the lack of gas, and tubing was being run late last week.

Work Holding Steady

Tulsa.—First reports for Oklahoma fields climbed to 74 for the past week and completions totaled 72. For the week previous the figures were 60 and 55. Among the completions were 48 oil wells with 59,592 barrels initial, 3 gas wells, 21 dry holes. Osage and Pontotoc counties each had 9 locations staked; Okfuskee had 7; Oklahoma and Seminole 6; Logan County 4; Creek, Stephens and Pottawatomie 3 each; Carter, Comanche, Cotton, Hughes, Jefferson, Okmulgee and Pawnee, 2 each; Cleveland, Garvin, Kiowa, Lincoln, Murray, Muskogee, Noble, Payne, Tillman and Tulsa had 1 each.

OKLAHOMA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BECKHAM COUNTY—		
Carter Oil, Garrett 1, ne ne ne 11-7n-25w	*	2226
Carter et al, Robertson 1, csw nw 2-9n-25w (pb 3400)	¶6¾	3997
CARTER COUNTY—		
Carl Carter, Harley 1, se nw nw 19-2s-3w	3	371
Harley 2, sw nw nw 19-2s-3w	8	384
CREEK COUNTY—		
Sinclair Prairie, Slick 5, cnl sw sw 3-17n-7e (otd 2703)	45	2717
Fee 209, se sw sw 24-17n-7e	¶4¾	2456
HUGHES COUNTY—		
Marbett Oil, Goat 1, sw ne se 11-7n-8e	¶6	1829
Hermann, Jacobs 3, ne ne nw 15-7n-8e	30	2970
Carson Oil, Lyter 1, ne nw sw 31-8n-12e	*	4941
JACKSON COUNTY—		
Gulf, Shirley 5, sw nw ne 6-1s-19w (pb 2574)	93	2613
Abernathy 1, nw ne sw 12-1n-20w	*	3816
JEFFERSON COUNTY—		
C. N. Smith, Seay 1, ne se sw 3-7s-5w	*	1404
Cap Fields et al, Trout 1, ne ne sw 5-8s-7w	*	2260
KIOWA COUNTY—		
C. E. Phillips, Cline 1, ne ne se 6-6n-16w	*	435
LeFLORE COUNTY—		
LeFlore Gas & Electric, B. Bolt 1, ne sw se 25-9b-26e	*	4417
LOGAN COUNTY—		
Eason Oil, Smith 1, se nw nw 13-17n-1w	¶9 & 4083	5128
Blackstone Oil, Prince 1, sw nw sw 11-17n-3w	*	6482
MARSHALL COUNTY—		
Leavell Coal, Cox "B" 4, se se se ne 26-7s-5e	*	425
MUSKOGEE COUNTY—		
Lightner, Barnett 1-A, nw ne nw 19-14n-16e	*	1916
NOBLE COUNTY—		
Phillips & Shell, McCaughtry 6, sw se ne 21-23n-2w	¶5 & 2608	4334
OKFUSKEE COUNTY—		
Manahan, Dolen 1, se ne ne 24-10n-8e	35	1892
Watson et al, Lindley 1, ne se se 26-10n-8e	*	1843
Blackwell et al, Lehmer 3, nw sw nw 17-10n-9e	50	1867
Arkansas Royalty, Parsons 4, nw sw ne 18-10n-9e	105	1912
Deaner, Shultz 4, sw se nw 18-10n-9e	100	1900
Sinclair Prairie, Shultz 3, ne ne nw 18-10n-9e	50	1874
Oklahoma Oil Corp., Ott 2, se nw nw 19-10n-9e	40	1900
Sinclair Prairie, Palmer 4, sw ne nw 19-10n-9e	10	1929
Stekoll, Ditzler 2, nw se ne 2-10n-11e (otd 900)	15	1365
OKLAHOMA COUNTY—		
Champlin & Murry, Crawford 1, ne ne sw 15-12n-3w	¶1½ & 440	6475
British American, Parkway 1, nw sw ne 27-12n-3w	7670	6514
Southern Drlg Mee 1, csl n½ ne ne 34-12n-3w	¶5 & 675	6425
Continental, Young 15, sw nw nw 31-14n-3w	¶15 & 5373	6686
OKMULGEE COUNTY—		
Burns, Lunsford 2-A, ne se sw 16-14n-11e	10	2440
English et al, Harris 3, sw sw se 1-14n-14e	*	1530
Lambert, Franklin 9-A, se sw sw 27-14n-14e	8	1170
W. B. Pine, Beams 2, nw nw se 4-15n-14e	*	1680
Misener Oil, Larney 5-A, ne ne ne 28-15n-14e	5	1668
OSAGE COUNTY—		
Mrs. E. H. Green, 1, ne se ne 11-21n-11e	5	1909
PAWNEE COUNTY—		
Forest Dev., Markham 1, sw ne se 10-21n-5e	*	3185
Peter Adamson, Jr., Thomas 8, sw sw ne 25-21n-8e (pb 2135)	6	2259
PAYNE COUNTY—		
L. F. Hoss, McCallum 1, se sw nw 4-20n-9e	¶½	921
PONTOTOC COUNTY—		
C. Andree, Pettyjohn 1, sw ne se 2-1n-7e	*	898
Continental, D. Helms 1, nw se se 2-1n-7e (pb 4410)	189	4655
Helms 1-A, nw sw se 2-1n-7e	115	4564
Burke Greis, Chambers 6, sw nw nw 36-2n-6e (pb 3966)	¶2¼ & 4234	4821
Moore, Smith "B" 7, sw ne ne 36-2n-6e	¶3 & 3072	3699
McCarty 3, nw sw ne 22-2n 7e	¶3 & 4622	3840
Sinclair Prairie, Wooley 14, nw sw sw 22-2n-7e (pb 4030)	¶3½ & 2582	4333
Wooley 18, nw sw sw 22-2n-7e	4031	3586
Wooley "A" 19, se nw sw 22-2n-7e	¶2¼ & 2590	3670
Magnolia, Metropolitan Life 30, sw ne sw 27-2n-7e	¶3½ & 2850	4280
Shelton 2, sw se sw 28-2n-7e	¶3¼ & 1597	4280
Smith 6, ne se nw 28-2n-7e	¶3 & 3324	3550
Moore, Mack 5, sw sw se 28-2n-7e (pb 4120)	*	5356
Woodroof 5-B, ne ne se 29-2n-7e	¶4½ & 2609	3530
Blackstock, Hardin 2-A, ne se sw 30-2n-7e	¶1½ & 2303	3745
Loual Drlg, Hardin 4-A, ne sw nw 30-2n-7e	¶3½ & 2495	3720
Delaney, Starrett 1, sw se ne 21-5n-5e	67	2597
Campbell, Parker 1, ne ne se 30-5n-5e	*	2731
Mary "F" Oil, Ferando 1-A, cw½ nw sw 13-5n-8e	*	876
Thomas, Gilmore 6, csl nw nw 28-5n-8e	½	830
POTTAWATOMIE COUNTY—		
Magnolia, Caudle 3, ne nw sw 13-7n-4e	172	4139
Olson Drlg, Gillis 1, nw ne nw 5-10n-4e	190	4459
SEMINOLE COUNTY—		
Francis, Ragland 3, sw nw nw 19-5n-6e (pb 2542)	60	2552
Sinclair Prairie, Lindsey 1, nw sw nw 3-8n-7e	*	4413
Amerada & Stanolind, Fore 1-A, sw sw sw 12-9n-7e	*	3408
Gulf, McIntosh 1, se se se 26-10n-7e	120	3627
Amerada et al, Martha 1, ne sw nw 36-10n-7e	¶¾ & 690	3647
STEPHENS COUNTY—		
Mudge Oil, Robberson 11, csl nw sw 10-3n-5w	12	1496
TULSA COUNTY—		
Anthony, Gilcrease 1, sw sw sw 34-17n-12e (otd 1670)	200	2292
Klingensmith, F. Gilcrease 1, sw nw sw 34-17n-12e	*	2325

*Failures; †Junked; ¶Million cu. ft. gas.

KANSAS FIELDS

Ellis County extension showing in Dodge lime

* * *

Testing well making 52,000,000 feet of gas

* * *

Another new pool in prospect for Rice County

Wichita.—One of the highlights of drilling activity in Kansas last week was the finding of production in the Dodge lime in Ellis County. Other items of interest included another big producer in the Bemis pool; a new well in the Cunningham pool and report of a good flow from the new producer south of the Peter pool of Barton County.

Joe Aylward and Western Kansas Oil & Refining Corporation's Meis 1, NWc 6-12s-17w, ½-mile south of production in the Marshall Ranch pool of Ellis County, was reported as having found oil in the Dodge lime at 3375 feet. The showing was estimated good for about 25 barrels of oil daily, but operators have decided to deepen to the lower horizons. Hole was being made below 3395 feet when last reported.

The Dodge lime, separated from the Hunton lime by an unconformity, has commercial production in Ellis County, but several wells in the airport area of Russell County, are said to be producing from the formation also. Meis 1 is northeast of production in the Walters pool, another Lario discovery, and may eventually connect that pool with the Marshall Ranch area.

Seek Another Potential Test

Deep Rock Oil Corporation's Baumer 1, NWc 27-11s-17w, in the Bemis pool of Ellis County, topped the Siliceous lime at 3444 feet, and after drilling to 3451½ feet, filled 3200 feet with oil in 8 hours. It is farthest south test in the pool, and is also said to be the highest there. The well established an early potential of 2600 barrels of oil. However, pumping equipment had been placed on pits allowed to set only five days, and caving delayed the test. Operators have requested permission to retake the potential at an early date.

The company has started operations at two other tests in the area where it holds a 640-acre block. Baumer 2, NE NW NW 27-11s-17w, set 10-inch casing at 1225 feet and was waiting on cement. Baumer 3, SW NW NW 27-11s-17w, was clearing site for derrick. The latter test is a south offset to the new producer. The west offset to the new producer, The Texas Company's Bemis 1-A, NEc 28-11s-17w, cemented casing at 3442 feet, top of the lime, but had not drilled in.

Big Gas Flow

Skelly Oil Company's Interurban 3, C SW 30-27s-10w, appears as the biggest well ever drilled in the Cunningham pool of Kingman and Pratt counties. The well, which had an open flow of 52,000,000 cubic feet of gas, was producing from 4027 feet in the Viola lime. More recent reports stated some high-gravity distillate was coming into the hole at around 4077 feet. Testing is being continued.

Indian Territory Illuminating Oil Company's Schrepel 1, SEc NE 26-20s-11w, south of production in the Peter pool of Barton County, pumped 497 barrels of oil in 11 hours from the Siliceous lime at 3325 feet after being acidized. Official potential had not been started, and it was not known whether the well would be classified as a pool opener or a long extension of the Peter pool. Later in the week the well pumped 744 barrels of oil in 12 hours. A full 24-hour test was impossible because of broken pumping equipment.

Manning, Martin et al's Mathes 1, SE SW NE 27-21s-8w, southeast of Sterling Townsite in Rice County, and west of production in the Hauschild area, topped the Siliceous lime at 3685 feet and at last reports was bottomed at 3710 feet where a survey was being made. Drill pipe was stuck in the hole at 3680 feet in the Simpson sand and a whipstock had to be set and a new hole drilled to get by the drill pipe. A drill-stem test will be made in the conglomerate at 3330 feet to test a showing of gas.

Atlantic Refining Company's Hughes 1, SE SW SE 6-21s-7w, was completed in the conglomerate between 3330 and 3334 feet, and on a test produced 4195 barrels of oil and free water.

New Pool in Prospect

Ewers-Simpson Oil Company and Skelly Oil Company's Linville 1, SW NW NE 2-20s-10w, 3 miles southwest of Chase in Rice County, topped Siliceous lime at 3315 feet and drilled to 3327 feet where a core saturated with oil was recovered. Linville 1 is situated southeast of production in the Schartz sector of the Silica pool. Standard tools were being rigged up before drilling in, and it is reported indications are favorable for opening a new oil pool.

S. A. Murphy et al's Roth 1, NWc SW 12-16s-18w, 8 miles north of La-Crosse, in Rush County, struck a big flow of gas at 2750 feet in an unidentified formation. Force of the gas was great enough to flow the tools up the hole, following which it ignited and burned the rig.

Dudley Morgan and Olney Flynn's Koriel 2-B, SE NE SW 23-18s-16w, in the Otis gas and oil pool of Rush County was completed for 467 barrels of oil and 45,000,000 cubic feet of gas from the Reagan sand at 3547 feet.

Schermerhorn Oil Company's Mauler 3, C SE 12-18s-16w, in the Otis gas area, was completed for 52,000,000 cubic feet of clean dry gas, coming from the Reagan sand at 3535 feet.

The Texas Company's Wagoner 1, NWc 22-16s-16w, south offset to the discovery producer in the Winget pool, was completed for 491 barrels of oil in 24 hours from the Oswald lime at 3261 feet. The flow followed acidization.

Empire Oil & Refining Company's O'Conner 1, NEc 17-24s-15w, northwest of Macksville in Stafford County, ran a full string of 7-inch casing which was cemented at 4133 feet. Water broke in from behind the casing after the plug was drilled out more than a week ago, following a show of gas in Siliceous lime. It was first decided to run a liner to shut out the water, but casing was later thought more efficient.

Joe Trigg and Vernon Oil & Gas Company's Andrea 1, SEc 4-23s-12w, west of production in the Richardson pool of Stafford County, was shut down for orders at 3731 feet in the Siliceous lime after making a survey and getting a hole full of water. Top of the lime was thought to be at 3693 feet.

Wellington Test Dry in Chat

E. B. Shawver's Gift 1, SWc NE 28-31s-1w, farthest northeast test in the Wellington pool of Sumner County, topped the Wilcox sand at 4080 feet and had a hole full of water from 4130 to 4133 feet in chat. It was the first well in that area to be dry in the chat, which is the producing formation for other wells there.

The Texas Company's Harper 1, NE SW SE 9-30s-3w, 4 miles north of Conway Springs in Sumner County, topped the Lansing lime at 2890 feet. The Stalnaker sand was found at 3018 feet, and a core was being taken at 3020 feet. Operators plan a thorough test of the Stalnaker sand, producing formation for the Oxford and Churchill pools at the eastern edge of the county.

Carter Oil Company's Staab 1, NWc 11-12s-18w, 3 locations south of production in the Walters pool of Ellis County, pumped 900 barrels of oil in a potential from the Siliceous lime at 3621 feet. The well was down 6 hours during the 24-hour test. Company officials are of the opinion the well would be good for about 1500 barrels of oil with a change of pumping equipment.

Bridgeport Machine Company's Kraus 1, NEc SE 21-14s-19w, an east offset to the discovery producer in the Kraus pool, near the town of Antonio, drilled to 3785 feet in the basal sand and was

then plugged back to 3765 feet, where it was reported swabbing 2½ barrels of oil an hour.

The Texas Company's Bemis 1-B, SWc NW 15-11s-17w, which extended the Bloomer pool a quarter-mile north, had Siliceous lime from 3423 to 3426 feet and made 290 barrels of oil in 12 hours.

Mid-Continent Petroleum Corporation's Wood 5, NE NW NE 4-20s-10w, in Rice County, topped the Siliceous lime at 3313 feet and drilled to 3323 feet. When the lower plug was drilled, the well filled 2465 feet with oil in 35 minutes, and had a hole full of oil in 1½ hours. Operators will clean out to the bottom and give the well a swabbing test. It is estimated good for from 2000 to 2500 barrels of oil when completed.

Empire Oil & Refining Company's Vaughn 1, SWc 17-14s-14w, southwest of Russell in Russell County, and which opened a new pool for the county, was given an official potential of 1482 barrels of oil from the Oswald lime at 3034 feet.

The company's Hickey 1, in Section 25-14s-14w, in the Hall pool, was completed for 1070 barrels of oil, production coming from the Oswald lime at 2970 feet after being acidized.

Gulf Oil Corporation's Grizzell 2, NW SW NW 31-17s-10w, in the Ellsworth County sector of the Bloomer pool, pumped 2082 barrels of oil in 24 hours from the Siliceous lime at 3258 feet, following acidization. Completion of Grizzell 2 as a big producer gives assurance of a lively drilling play for the area.

Yarnell & Spencer's Patzner 2, NE NW SE 36-17s-11w, topped the Siliceous lime at 3253 feet, and with the hole bottomed at 3254 feet, recovered samples in the circulation showing some oil. It is said to be running 9 feet higher than Skelly Oil Company's Bloomer test to the north. It is the first test to reach the pay on the farm of Emil and Louis Patzner, who first refused to lease their land for drilling, even though oil had been found on all sides of the property.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Empire, Demel 1, se se sw 9-16s-13w	1114	3389
BUTLER COUNTY—		
Empire, Lathrop 24, se se nw 17-23s-4e	135	2074
CHATAUQUA COUNTY—		
Barbara Oil, Gorman 1, se se nw 23-32s-10e	100	1942
COFFEY COUNTY—		
Hinze et al, Vannocker 4, ne nw ne 12-23s-14e	5	1619
COWLEY COUNTY—		
Foraker & Straub et al, Grant 1, sw sw sw 18-31s-3e (pb 2300)	*	2830
ELLIS COUNTY—		
Empire, Bemis 4, se se se 21-11s-17w	2500	3414
Hall 1, se se se 2-12s-17w	*	3704
Wolf Creek Oil, Dreiling 1, nw nw sw 4-12s-17w (otd 3350)	1297	3531
ELLSWORTH COUNTY—		
Continental, Rolfe 2, se se nw 34-17s-8w	563	3240
Carter et al, Ogden 8, nw sw sw 26-17s-9w	965	3181
HARVEY COUNTY—		
Shell, Balzer-Siemens 1, cw½ w½ ne 8-22s-3w	15	3558
MEADE COUNTY—		
Pacific Midwest Co., Rexford 1, ne se sw 8-30s-29w	lcn.	abd.
McPHERSON COUNTY—		
Shawver et al, Fletcher "A" 2, se sw sw 16-19s-1w (otd 2961)	157	3441
Derby et al, E. Arnold 1, sw sw nw 16-21s-1w	405	3429
Ohio Oil, Decker 9, sw nw se 20-21s-1w	312	3310
Continental, Hetzke 5, se ne ne 29-21s-1w	900	3340
Hetzke 6, nw nw ne 29-21s-1w	692	3316
RENO COUNTY—		
Wilcox O&G, Mantford 1, nw ne sw 12-23s-4w	969	3432
I. T. I. O. Mueller 1, nw nw ne 30-24s-4w	1020	3380
RICE COUNTY—		
Empire, Jansen "A" 9, sw nw nw 3-18s-8w	290	3281
Robertson et al, Smith 2, ne se sw 32-19s-9w	305	3257
Skelly, Dittmers 2, sw sw sw 28-19s-10w	2334	3275
Gulf, M. Steckel 1, se ne ne 31-19s-10w	1115	3286
Bradley Oil, Mitchell 5, sw se sw 32-19s-10w	2289	3297
Mitchell 6, ne se sw 32-19s-10w	2196	3305
Gulf, S. Wendell 4, se nw se 32-19s-10w	1186	3291
Ohio Oil, Wood 1, nw ne nw 3-20s-10w	464	3359
Sinclair Prairie, Proffitt 3, ne nw nw 3-20s-10w	1437	3332
Gulf, Stolz Jr. 13, ne ne nw 5-20s-10w	1360	3298
Stolz Jr. 14, se ne nw 5-20s-10w	1460	3296
Winkle & Koch, Leming 1, sw sw se 24-20s-10w	*	3440
Atlantic, Gossman 2, se ne se 8-21s-7w	1137	3364
Pryor & Lockhart, Hannenkratt 1, se ne sw 8-21s-7w	15	3375
Douglass O&G, Theede 2, sw nw sw 9-21s-7w	2950	3360
Sage-Yankey et al, Gossman 2, nw sw nw 9-21s-7w	3194	3379
Reserve Dev., Patton 1, sw nw nw 16-21s-7w	3970	3375
Atlantic, Potts 1, ne ne nw 17-21s-7w	227	3396
Potts 2, se ne nw 17-21s-7w	265	3390
Aylward Prod., M. A. Johnson 2, sw nw ne 17-21s-7w	15	3389
Johnson 4, sw ne ne 17-21s-7w	15	3387
RUSH COUNTY—		
Morgan & Flynn, Koril "B" 2, se ne sw 23-18s-16w	¶45 & 467	3547
Green Oil, Yeagy 1, ne ne ne 17-9s-17w	lcn.	abd.
RUSSELL COUNTY—		
British American, Boxberger 2, nw ne ne 33-13s-14w	1925	3275
Stearns & Streeter, Miller 3, se ne nw 31-14s-13w	1242	2945
Gulf, Pierce 3, sw nw se 2-14s-15w	404	3306
Central Pet., Foster "B" 2, se sw ne 3-14s-15w	1695	3300
Transwestern Oil, Polcyn 5-B, se ne se 10-14s-15w	686	3244
Polcyn "C" 2, sw nw sw 11-14s-15w	688	3263
National Ref, East Reinhardt 2, sw nw ne 36-14s-15w	310	3179
Shields et al, Gross 1, nw nw se 5-15s-13w	*	3250
Empire, Sellens 3, se nw sw 30-15s-13w	1776	3275
STAFFORD COUNTY—		
Stanolind, Heyen "B" 6, nw nw ne 31-22s-11w	1532	3560
STEVENS COUNTY—		
McKnabb O&G, Hallock 2, cse 36-33s-39w	¶5½	2660
SUMNER COUNTY—		
Orcott & Stewart, Newton 1, se se se 21-30s-2e	*	930
TREGO COUNTY—		
Black Gold Oil, Areman 1, csw sw 34-14s-21w	*	3990
WOODSON COUNTY—		
Oko Oil, Houghland 5, sw se se 35-23s-14e	40	1630
McGinnis, Weide 3, se se ne 31-23s-15e	*	1628
Oko Oil, Weide 10, sw nw sw 32-23s-15e	40	1563
Harper et al, Weidie 1, se se ne 10-24s-14e	*	2046

*Failures; †Junked; ¶Million cu. ft. gas.

Approve Bill

[*Continued from page 12*]

lands in the reserve by purchase or condemnation, using therefore money due the government as royalties from any of the naval reserves and money due the government because of the wrongful extraction of oil and gas from lands in the reserve; to terminate existing leases at the end of their initial 20-year periods by voiding the options for renewals; to enter into more advantageous leases giving greater control of operations; and to cancel leases should a lessee fail to comply with the lease, the provisions of the act or any regulations promulgated thereunder. It is provided that no leases of lands nor any benefits therefrom shall extend to foreigners whose governments do not grant reciprocal privileges to citizens of the United States.

The committee explained that the conservation agreements would be made with operators on lands adjoining the government's reserved lands, whose operations threaten drainage of the government lands, for the purpose of obtaining payment for such losses as the government might sustain through drainage; the contracts, by payment of compensatory royalty, making it unnecessary for the government to lease or operate its lands as has been the custom in the past.

To Seek an Exchange

Through the exchange provisions, it was said, it is believed an exchange of properties can be effected with Standard Oil Company of California which will place no section of the government's holdings in contact with the company's lands on more than one side.

The acquisition of lands in the reserve, the committee pointed out, "unquestionably would be the best solution of the navy's problem" but embraces "the almost insurmountable difficulty of properly evaluating those possible oil-bearing horizons as yet undiscovered which may be present these formations lying beneath the known oil zone.

"Present oil production in Naval Petroleum Reserve No. 1, is encountered at depths of less than 4000 feet in those wells which have been drilled in the eastern part of the Elk Hills field," it was explained. "However, it is anticipated that other oil-bearing sands may be discovered in the formations below the known oil zone. It is the opinion of the committee that authority to purchase or condemn the private lands in Naval Petroleum Reserve No. 1 will materially aid the government in any negotiations entered into for the purpose of exchanging lands to consolidate the government's holdings in its most valuable oil reserve.

"To use the right to royalty production from any of the naval petroleum reserves and the right to any monies due the government as a result of the illegal extraction of oil and gas from lands in Naval Petroleum Reserve No. 1 in connection with exchange for or purchase of private lands in Naval Petroleum Reserve No. 1 is authority which it is believed will be necessary if the authority to negotiate with Standard Oil Company of California to either exchange lands or purchase the company's holdings in Naval Petroleum Reserve No. 1 is granted," the committee continued.

NORTH AND WEST TEXAS

Northern Permian Basin attracts reserve seekers

* * *

Southwest Hockley County wildcat stimulates trading

* * *

Assemble 5000-acre Gaines County block for test

Midland, Texas.—Return of $50 per acre cash bonus for lease protection against wildcats in the north portion of the Permian Basin that are amply fortified with geological and geophysical information denotes the popularity of West Texas with companies that are seeking additional crude reserves. This price scale has not become prevalent, but lately has applied to several prospects.

Normally West Texas wildcatters finance their operations by selling spreads at a price range of $10 to $25 per acre, and the majority of the projects now underway are on this basis.

An abundance of money posted by companies for investment in potential oil lands by companies that have gone through previous campaigns in the district, plus that being turned loose by new entrants, naturally creates healthy competition.

Wildcat Stimulates Play

Lease and royalty trading in the north basin area has been stimulated by success of The Texas Company's Bob Slaughter 1, southwestern Hockley County geophysical prospect, in uncovering oil production about 11 miles east of a single flowing producer in Cochran County. Slaughter 1 was listed last week as flowing by heads from lime section at 4980-5020 feet, with an elevation of 3560 feet. The well was deepened April 4 with cable tools and encountered one barrel of sulphur water per hour at 5025-30 feet, and since has been plugged back to 5023 feet. It will be shot with nitro and acidized when tested for water shutoff. Seven-inch pipe was cemented at 4443 feet. The well flowed 30.6 gravity sulphur oil by heads prior to reaching the water level. This wildcat took in 45 feet of saturated section prior to the appearance of water at 1465 feet sub sea, while the Cochran County producer hit water at 1405 feet below sea level, assuming the elevation is correct, and logged about 50 feet of oil saturated lime. The uniform thickness of the oil pay logged by all the producers in the five north basin counties offers an interesting coincidence for geologists to ponder with.

All oil producers in the five counties, excepting a small pumper in Dawson County, drilled through the saturated zone and found a nominal head of water. More pronounced structures in the main section of the Permian Basin usually offer a prolific yield of water.

To Determine Area's Value

Value of the Dawson County isolated pumping area will be put to a test shortly as Ernest L. Wilson, Dallas, manager for Maracaibo Oil Exploration Corporation, in association with Thornton Lomax and W. L. Pickens, has made location for Texas Land & Mortgage Company 1, C NW SE Section 45, Block M, E. L. RR. Survey, about 1½ miles south by east of Ray Albaugh et al's Robinson 1, which made a pumper at 5038 feet, or 1953 feet sub sea, last year, and is now idle for lack of a market. Wilson et al obtained lease on the entire section, and sold one-quarter-section each to Magnolia Petroleum Company and Atlantic Refining Company at $50 per acre. W. E. Production Company has contracted to drill the test. Wilson et al's Yellow House Ranch Company 1, southeastern Bailey County wildcat project, is scheduled to be underway within 30 days. Illinois Oil Company took an interest in the block, and will drill the test.

Bond, Harrison and Fogelson's Cameron 1, northeastern Cochran County wildcat, has made exceptionally fast progress with rotary in drilling to the 4500-foot level, and is due to halt shortly to run pipe and change to cable tools. Top of brown lime was logged at 3760 feet, or 60 feet below sea level.

Interest in Amon G. Carter et al's A. L. Wasson-Conoco 1, SW SW NW Section 48, Block A-X, PSL Survey, northern Gaines County, has increased since the sale of lease spreads at $50 per acre. Continental Oil Company farmed out the block after doing geophysical work in the area, and retains 50 percent interest.

Argo Oil Corporation, successor to Argo Royalty Company and other affiliated units, has assembled a 5000-acre block in northwestern Gaines County, and will drill a Permian lime test in or near Section 2, Block A-7, PSL Survey, if negotiations now pending for acreage sales materialize. The test is based upon local and regional subsurface work and a geophysical survey.

In southern Gaines County, Landreth Producing Corporation's C. Cobb 1 was abandoned at 5013 feet, with an elevation of 3252 feet, and was relatively low on structure.

Shell Petroleum Corporation's M. J. Mann 1, east offset to the discovery oil producer on the Seminole structure, Gaines County, resumed drilling last week after cementing pipe at 3052 feet as a safeguard against troublesome gas due in the Yates sand zone.

Two Wildcats Fail

Two Andrews County wildcats were listed as failures the past week. Humble Oil & Refining Company's J. S. Means 1-B, about 3 miles southeast of Means field, was abandoned in sulphur water at 5227 feet, with an elevation of 3158 feet. Wm. F. Hanagan et al's Lotus Oil Company 1, C NE Section 18, Block A-48, PSL Survey, fulfilled contract in drilling to 5001 feet. Minor oil saturation was logged at 4475-90 feet, with an elevation of 3246 feet.

A third outlet for the Goldsmith field, Ector County's most active oil area, will be afforded by the entry of Humble Pipe Line Company. This concern is building about 18 miles of 6 and 8-inch welded line from its booster station in Judkins field to the north portion of the Goldsmith field to handle controlled and outside crude.

Jack County Deal

Dallas.—Bennett Petroleum Company, Dallas, has sold three producing properties in East Bryson field, Jack County, involving 204.9 acres with 17 oil wells in the Strawn sandy-lime horizon near the 3000-foot level, to Mar-Tex Oil Company, Houston, for a reported consideration of $500,000 cash and $500,000 payable from production. The former retains lease on approximately 400 acres in the area. Daily allowable production of the wells is 1100 barrels.

Denton County Makes Bid

Fort Worth.—Denton County has entered a bid for a position among the oil producing counties in North Texas through the wildcat efforts of A. A. Lander, Inc., et al on the E. W. Forrester tract, 3 miles northwest of Bolivar. It is showing for a 20-barrel 40 gravity pumper from sandy-lime at 1647-1652 feet, with very little gas. Location is near the northeast corner of the J. B. Barrough Survey, A-45, and is 1190 feet east and 150 feet south of the southwest corner of the Sol Yoachum Survey. This prospect was drilled on the strength of the recent completion of Bolivar Drilling Company et al's J. P. Knox 1, R. Howard Survey, located about 1½ miles to the southeast, rated at 1,400,000 feet of 775 Btu. dry gas in sand at 1951-1957 feet. The latter was the first gas well for the county.

Olson Drilling Company et al's D. R. Utiger 1, second test for the Preston anticline, Grayson County, twisted off drill pipe while in shale at 5751 feet, leaving about 1800 feet in the hole. It is contracted to go to 6000 feet. The same group's first test, located 1½ miles to the north, was junked at 5890 feet. Rapp Drilling Company, Fred

Gilbreath et al's J. R. Singletary 1, Grayson County's first deep oil strike, pumps 20 to 25 barrels of 27.6 gravity oil in 4 hours, then pumps off. It is located 1½ miles southeast of Collinsville, and is producing from sand at 3862-76 feet, after plugging back from 4219 feet to 3877 feet for small nitro shot.

Good Ordovician Show

San Angelo, Texas.—Gulf Oil Corporation's third Ordovician lime prospect on the north end of the Sand Hills structure, western Crane County, uncovered prolific oil and gas flow, based on brief performance through drill-stem test at 5989 feet, or 3423 feet below sea level. Preliminary showing made by this company's W. N. Waddell et al 4, C SW NE Section 4, Block B-27, PSL Survey, forecasts completion of the first attractive production from the Ordovician horizon in West Texas outside of the Big Lake field. It will gain new interest in the deep lime possibilities of the Permian Basin after numerous disappointments over a wide area. The prospective producer is ⅝ mile southeast of the company's W. N. Waddell et al 1, which proved the structure in December, 1935, for a nominal oil yield from the Ordovician.

Top of Ordovician section was logged at 5824 feet, with an elevation of 2566 feet, by Gulf Oil Corporation's Waddell et al 4. Formation tester used April 5, with cone packer set on shoulder at 5800 feet, was held open 25 minutes. During this period the well cleaned itself of drilling fluid and flowed oil, testing 44.8 gravity at 75 degrees, at rate of 4 barrels per hour. Gas volume through this small choke was estimated at 2,000,000 feet daily. It was identified as sweet gas. Competent observers predicted the well would make 10,000,000 feet of gas on open flow. Formation samples recovered near the bottom of the hole indicated that the oil was produced from dolomite lime, possibly the top of the Ellenberger member. The two previous tests drilled to sulphur water in the Ellenberger, and are producing a total of about 130 barrels of 34 gravity oil daily from sand section of the Simpson, or middle Ordovician sediments, after nitro shot and acid. Waddell et al 4 is about 50 feet higher structurally than the deep discovery producer. The three deep projects are on the northwest nose of one of the largest structures in the basin, and it is important as a source of 35 gravity oil in the 4400-foot lime. Seven-inch pipe has been cemented with 300 sacks of cement at 5800 feet.

Ordovician lime is the objective of Superior Oil Company of California et al's Massie-Todd 1, C SE NE G. C. & S. F. Section 55, Block U-V, Crockett County wildcat. It was drilling in shale at 1400 feet, with an elevation of 2537 feet, according to late reports. Located on an 880-acre unit block, it is contracted to go to 7500 feet. It is one mile southeast of Stanolind Oil & Gas Company et al's Todd 1, which showed oil saturation in Simpson section at 7006-7247 feet and in Ellenberger limestone zone at 7247-7357 feet, but was abandoned in March, 1933, at 8041 feet after plugging back and using 1760 gallons of acid. Ordovician prospects for the area are predicated upon an unusually pronounced geophysical picture.

Stanley A. Thompson et al's Elsinore Cattle Company 1, located 20 miles south of Fort Stockton, Pecos County, and on a 38,000-acre block, is contracted to drill to the Ordovician, and last week was drilling out cement used in combatting a cave at 4901 feet. It has an elevation of 3938 feet, and is the only active deep prospect in the county. Majors have acquired a vast volume of long term leases in this county within the past several years as protection against Ordovician possibilities.

Gas showings logged by Grisham-Hunter Corporation et al's C. V. T. Montgomery 1-A, Reeves County wildcat one mile northeast of Toyah, in anhydrite and broken lime section between 3326 feet and 3830 feet enhances its outlook for production in the Delaware lime and sand zone. It is bottomed at 3870 feet, near the top of the Delaware lime. Seven-inch pipe has been cemented at 3865 feet, and cable tools will be installed before drilling is resumed. The elevation is 2891 feet. A. R. Eppenauer and J. E. Cunningham's J. G. Tillar 1, C. C. Wyatt Survey, ½-mile northwest of the town, also showed gas with lots of sulphur water, but was abandoned at 4091 feet in April, 1935, after logging top of Delaware lime at 3785 feet and sand at 3810 feet, with an elevation of 2917 feet. The latter hit crevice at 3672 feet, yielding lots of water and small volume of gas, and the hole was accidentally sidetracked at 2340 feet while drilling on bridge.

Humble Oil & Refining Company's Mrs. E. M. Gray 1, western Pecos County Delaware prospect, logged top of salt at 2810 feet, with an elevation of 3592 feet, and was drilling with hole full of water at 3220 feet. Ward County has two Delaware tests underway. C. H. Mahres, Pecos, Texas, et al's P. Wilson 1, Section 133, Block 34. H. & T. C. Ry. Survey, entered Delaware lime at 5036 feet, or 2369 feet sub-sea, and halted at 5053 feet to check titles. In the northwest portion of the county and near a small Delaware zone producer, L. H. White, Pecos, et al's Monroe-Rector 1, W. & N. W. Section 3, Block 1, was drilling in anhydrite at 3460 feet.

South Vernon Deep Production Extended

Wichita Falls, Texas.—Deep lime formation in the South Vernon district, Wilbarger County, uncovered last February by Phillips Petroleum Company on the Waggoner ranch for a natural flow of 39 gravity oil is showing for an oil producer in a test 3 miles to the northwest. Davis Oil Corporation's Waggoner Estate 1-A, H. & T. C. Section 36, Block 3, logged favorable oil saturation at 3182-3197 feet, and has run pipe to acidize. Waggoner Estate 51, NEc Section 44, Block 4, opened the new horizon with a potential of 2214 barrels natural at 3071-3076 feet, with an elevation of 1158 feet, and earned an allowable of 116 barrels daily. Humble Oil & Refining Company's Waggoner Estate 22-H, northeast diagonal offset, has since been completed at rated flow of more than 1500 barrels daily 2400-foot levels.

Only a few wells in the above class are needed to set in motion an aggressive drilling program for the South Vernon area. However, revived operations may involve mostly deeper drilling of old stripper wells in sand and lime horizons that range from 1200- to 2400-foot levels.

Rathke Oil Company et al's C. W. Johnson 1-A, one mile southwest of prolific gas and distillate wildcat completed southeast of Graham, Young County, last January by A. R. Eppenauer et al's Eddleman 1, failed to fulfill expectations in registering a potential of 35 barrels after 70-quart nitro shot in Marble Falls sandy-lime at 4230-64 feet. It was plugged back from water at 4290 feet. Eddleman 1 has remained shut in since completion, and proposed development program by its owners has been delayed by title difficulties within the block.

In eastern Stephens County, Russ

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Consolidated Oil Co., C. L. Abercrombie 1, blk 28	*	1545
W. H. Portwood 16-C-D, sec 2411.	*	1447
Golding & Cochran, H. E. Brown 13, sec 6	150	1188
B. R. Jeske 9, sec 6	180	1189
Hamilton Pet. Co., R. O. Prideaux 1, sec 1860	*	860
W. T. Hutcheson, Jr., et al, L. F. Wilson 1-D, sec 121	*	1595
T. L. Looney et al, J. S. Bridwell 1, blk 101	*	1476
Pet. Producers Co., J. H. Turbeville-Conoco 1-D, blk 160	*	2386
Seaboard O&G Co., H. Wilmut 7-A, sec 4	*	925
Whitehill Oil Corp., H. S. Morrison 25, blk 4	8	668
CLAY COUNTY—		
Bridwell Oil Co., Saner-Lomax 6	10	268
COOKE COUNTY—		
Dove Oil Co., J. A. Carr 5	94	1947
J. A. Carr 6	45	1929
Mudge Oil Co., Johnson 18	41	1192
Pace Pet. Co., S. P. Aldridge 7	40	1188
Schermerhorn Oil Corp., Hess 10	10	774
Vindicator Oil Co., Walterscheid 11	12	794
DENTON COUNTY—		
Mullins & Weil, D. G. Taylor 1	*	2514
JACK COUNTY—		
Beard & Collier, R. R. Clayton 1	490	2970
R. R. Clayton 2	522	2971
L. T. Burns et al, M. N. Garrett 1	*	803
Cato Oil Co., J. A. Raley 3-B	454	3082
Hamilton Pet. Co., J. S. Rhodes 2	470	2366
MONTAGUE COUNTY—		
Continental Oil Co., N. J. Howard 33	32	985
N. J. Howard 22-A	14	1383
Gibson-Jennings, Inc.-Sinclair Prairie, D. T. Holt 6	108	1752
The Texas Co., I. A. Gist 27-A	32	919
WICHITA COUNTY—		
Bridwell Oil Co., W. B. Hobaker 4.	15	1083
L. T. Burns et al, Waggoner Bros. 20, blk 25	*	1450
G. W. Cooper et al, Waggoner Est. 17-C	348	1648
Culbertson Co., Waggoner Est. 82, sec 13	*	1521
A. R. Douglas et al, L. P. Douglas 1, sec 14	*	341
Duke, Kent & Felty, C. Guyer 3	*	455
E. B. Madden et al, Fee 12-A	2	555
Dee 13-A	1	555
Tom B. Medders et al, J. L. Jackson 2-B, blk 13	*	710
Pois & Schulz, Foster-Allen 4-A, sec 1	110	1278
Geo. Proctor et al, Foster-Allen 6-A, sec 1	7	853
Target Dri. Co., Foster-Allen 1, sec 1	*	2102
WISE COUNTY—		
Texas Canadian Dev. Co., L. N. Maxwell 1	*	4040
YOUNG COUNTY—		
R. B. Farris et al, G. H. Sanford 1, sec 215	*	666
Owenwood Pool & Willis, G. P. Stewart 1, sec 1493	*	1647
Rathke Oil Co. et al, C. E. Graham 13, sec 3401	25	909
C. W. Johnson 1-A	40	4290

*Failures; †Junked; ¶Million cu. ft. gas.

Petroleum Company, Clark-Cowden Drilling Corporation and W. T. Garrett's Mrs. A. Echols 1, SW SE Section 10, Block 3, will be completed as a gasser in Marble Falls at 3838 feet. This semi-wildcat tested 16,800,000 feet of gas, with lots of distillate at 3856-69 feet, and stuck a string of 5-3/16-inch casing while trying to lower below the gas to deepen for oil production. The gas tests 1450 pounds rock pressure, and will be given a market outlet. Owners have a block of 1440 acres in the area. Negotiations are underway for the drilling of one or more tests.

Claim off-Shore Well Would Not Pollute

Houston.—Humble Oil & Refining Company issued a statement last week regarding the proposed wildcat locations offshore of Jefferson County and approximately eight miles northeast of High Island in the open Gulf of Mexico. It was stated that the proposed well would not involve a pollution of waters, a threat to navigation, or spoil the beaches.

Humble Oil & Refining Company, through an official, said in part:

"The leases involved were purchased from the state for $456,000 in cash to the school fund. They provide for the payment of a royalty to the school fund of one-sixth of the value of all oil and gas produced. They specifically authorize the company to drill and develop the property.

Many Other Permits Granted

"Since the lands are covered by navigable waters, it became necessary for the company to obtain from the war department a permit to drill. The war department has granted permits for the drilling of hundreds of wells in the navigable waters of the United States.

"For approximately 24 years leases have been granted covering areas within the coastal waters, and many wells have been drilled thereon. Altogether, approximately $4,000,000 has accrued to the school fund from the sale of such leases.

Contentions Denied

"The contention is being made that the drilling of the well in question will interfere with navigation and cause pollution of coastal waters and beaches. The evidence introduced before the government engineers shows that there is no navigation of any consequence involved, and hence no interference, and further that the drilling of numerous wells in the Pacific Ocean and the coastal waters of Louisiana and in the waters at Goose Creek, in Turtle Bay, in Dickinson Bayou, in the Sabine River and elsewhere in Texas shows no pollution has resulted.

"The rights of the state and the Humble are now fixed by contract. However, the Humble company would not object to delay in drilling if the legislature should pass a general law extending all existing leases for a reasonable term of years at the existing rate of rentals, provided proper safeguards are made to permit drilling in order to prevent drainage, and provided all areas and all interested parties are treated alike."

WEST CENTRAL TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
West-Tex O&G Co., Carothers-Smith 5	¶1/3	1505
CALLAHAN COUNTY—		
Canyon O&G Co., Kidd 1	*	815
Mesa Verde Oil Co., E. T. Klepper 1	*	2024
L. R. Terry et al, Windom 1	*	1350
L. A. Warren et al, Hatchett 1-B	*	815
COLEMAN COUNTY—		
Anzac Oil Corp. et al, Morris 1-H	¶1½	2221
COMANCHE COUNTY—		
H. L. Baughman et al, Hardin 1	*	720
EASTLAND COUNTY—		
L. L. Wilborn et al, W. W. Fox 1	¶3¼	1092
Hickok Prod. & Dev. Co., City of Cisco 2	*	4030
HAMILTON COUNTY—		
Seaboard Oil Corp., Fee 1 (112½-ac)	*	4348
McCULLOCH COUNTY—		
Harris & Myer, Brooks 1	*	1090
PALO PINTO COUNTY—		
A. S. Hickok et al, Robinson 3	*	1530
Palo Pinto Oil Corp., Strawn 18	¶3.6	3057
SHACKELFORD COUNTY—		
Albany Oil Co. & Freeman, Hastings 2	*	1612
Baker & Pardue, Davis Bros. 3-B	12	1399
Butler & Horn, Morris-Buie 10	140	1612
Morris-Buie 11	252	1610
Morris-Buie 12	80	1609
Charter O&G Co., Herrington 4	*	1638
Danciger O&R, Inc., & Pearson, Swenson 1	*	1663
J. L. Flowers, Tr., et al, Rogers 1	*	419
R. F. Gilman et al, McKelvey 1	*	1200
F. C. Smith 1	*	1025
Green, Jones & Stasney, Davis 1	*	1716
Hoffman & Page Co., Morris-Buie 25	*	1649
Humble, Bowman 1	†	1575
Iron Mountain Oil Co., D. A. Ivy 1	*	1990
Kendrick & Wooten, Gass 1	*	436
Livingstone & Wellman, Morris-Buie 3-A	*	1750
N. H. Martin & Son & Rogers, Davis 3	100	1716
Owens, James & Jones, Morris-Buie 8	150	1613
Morris-Buie 9	125	1616
Frank Oyster et al, Swenson 1	*	1946
Putman Supply Co., Dodson 1	*	977
Reliance Oil & Roy. Co.-Jones & Stasney, Davis 15	*	1840
Roeser-Pendleton, Inc., Dawson 19, sec 202	190	1618
Dawson 20, sec 202	115	1515
Dawson 21, sec 202	126	1606
Dawson 22, sec 202	155	1625
J. D. Sandefer, Jr., et al, Alexander 4-A	35	1644
Tannehill Oil Co., Newell 38	25	932
Ungren & Frazier, J. E. McGown 1	93	1932

*Failures; †Junked; ¶Million cu. ft. gas.

WEST TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Fuhrman Field)—		
Fuhrman Pet. Corp., W. H. Boner 4-B	532	4485
ANDREWS COUNTY (Means Field)—		
Humble, J. S. Means 17	789	4530
ANDREWS COUNTY (Wildcat)—		
Wm. F. Hanagan et al, Lotus Oil Co. 1	*	5001
Humble, J. S. Means 1-B	*	5227
CRANE COUNTY (Gulf-McElroy Field)—		
Gulf Oil Corp., Crier-McElroy 25	240	3004
J. T. McElroy 147	359	2975
CRANE COUNTY (Sand Hills Field)—		
Gulf & Truett Cranfill, J. B. Tubb 5	633	4420
CRANE COUNTY (McCamey Field)—		
A. W. Cherry et al, E. S. Hughes-Conoco 2-B	643	2366
W. E. Production Co., Durham 1-B	120	2495
CROCKETT COUNTY (Wildcat)—		
John I. Moore et al, A. C. Hoover 1	*	2523
ECTOR COUNTY (Foster Field)—		
York & Harper, Inc., H. C. Foster 2	509	4223
ECTOR COUNTY (Goldsmith Field)—		
Landreth Prod. Corp., C. Scharbauer 1-E	392	4270
ECTOR COUNTY (North Cowden Field)—		
Sinclair Prairie, T. A. Smith 3	459	4253
Stanolind, J. M. Cowden 39	854	4295
J. M. Cowden 41	767	4265
GAINES COUNTY (Wildcat)—		
Landreth Prod. Corp., C. Cobb 1	*	5013
GLASSCOCK COUNTY—		
Conoco-Group 1 Oil Corp., Settles 27-S	515	1265
HOWARD COUNTY—		
Plymouth Oil Co., TP Land Trust 12	1393	2543
Sinclair Prairie, G. M. Dodge 47	405	2785
G. M. Dodge 48	438	2776
LOVING COUNTY (Wheat Field)—		
C. G. Wilie & L. Lochausen, J. J. Wheat 1	220	4220
PECOS COUNTY (Masterson Field)—		
Pecos Onodago Oil Corp., Ed. Fromme-California 1	27	1567
PECOS COUNTY (Taylor-Link Field)—		
E. P. Cravens et al, University-Conoco 1	*	1664
PECOS COUNTY (Torborg Field)—		
Cardinal Oil Co., Tippett-Kirby 46-E	23	424
Tippett-Kirby 48-E	23	479
PECOS COUNTY (Yates Field)—		
Ohio Oil Co., I. G. Yates 54-A	100,512	1545
UPTON COUNTY (McCamey Field)—		
Arnold Oil Co., L. H. Harrell 2	440	2169
R. H. Henderson et al, M. L. Baker-Gulf 1-C	722	2240
M. L. Baker 1-E	684	2232
F. W. Merrick, Inc., Cordova Union 3	98	2169
Powell Gap Oil Co., J. F. Lane 3	830	2171
UPTON COUNTY (Gulf-McElroy Field)—		
Gulf Oil Corp., Crier-McElroy 24	3529	2847
WARD COUNTY—		
Jess J. Gibson et al, S. S. Owen-Sloan 3	196	2339
Grisham-Hunter Corp.-Pat Hill, M. Himmel-Amerada 4	194	2383
Gulf Oil Corp., E. W. Estes 14	640	2940
E. W. Estes 17	1458	2620
E. W. Estes 18	1811	2600
Pat Hill et al, Clements-Sun 11	329	2308
Humble, L. Richter 13	2008	2605
University 10-F	1256	2760
University 11-F	823	2742
Richardson Oils, Inc., Hathaway 21	3860	2629
Hathaway 23	4346	2628
Sinclair Prairie, F. Carnegie 4-A	*	2345
Standard Oil Co. (Texas), I. B. McFarland 4, sec 37	1685	2650
J. F. York 28	183	2525
Tide Water Associated, W. D. Johnson 13	8216	2667
W. D. Johnson 15	4147	2690
WINKLER COUNTY (Henderson Field)—		
Emperor Oil Co., J. W. Hess 3	6500	3080
WINKLER COUNTY (Kermit-Sayre Field)—		
Harry Adams Corp. et al, Walton 8-A	839	2846
Gulf Oil Corp., Oscar Clapp 7	847	3110
L. Daugherty 25	723	3120
L. Daughertw 27	¶7.2 & 314	3020
L. Daugherty 28	1242	3128
L. Daugherty 30	1035	3020
L. Daugherty 31	835	3020
Humble, N. R. Colby 14-A	149	3010
Magnolia, J. B. Walton 65	779	2970
J. B. Walton 67	1320	2942
Sinclair Prairie, Walton 15-C	1291	2975
Siosi Oil Corp., J. C. Lovett 8	518	3123
Sun Oil Co., Daugherty 3	373	2966
TP Coal & Oil Co., Daugherty 19	707	2947
WINKLER COUNTY (Keystone Field)—		
Gulf Oil Corp., Keystone 16	603	3540
J. R. Sharp et al, J. B. Walton 1	159	3414

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS PANHANDLE Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
C. E. Ash & Smith, J. S. Morse 4-B	141	2685
Bradshaw O&G Co., M. S. Arnold 4	606	3281
J. Alvin Gardner & Bro., E. G. Barrett 4	668	330
HUTCHINSON COUNTY—		
Drilling & Exploration Co., Inc., W. B. Haile 12	433	3077
Phillips Pet. Co., Cockrell Ranch 18	333	3067
J. A. Whittenburg 3, sec 57	*	3026
Stanolind, W. B. Haile 3	366	3067
MOORE COUNTY—		
Texoma Nat'l Gas Co., J. T. Sneed 10-P	¶9	2900
WHEELER COUNTY—		
J. Gordan Burch-Wilcobur Oil Corp., Plummer 5	*	3370
El Bar Corp., L. H. Cullum 1	157	2459
C. T. Palmer et al, W. H. Holmes 1	¶27.3	2265

*Failures; †Junked; ¶Million cu. ft. gas.

Trinity sand objective of most wildcats

* * *

Talco output reduced by new schedule

Tyler. — Prospecting in the East Texas basin area is predominantly deep drilling, with the Trinity zones as the objective. The record smashing Woodbine horizon is being passed up, except for a few isolated areas, while interest is at a high pitch in the practically unexplored lower levels. New Trinity projects are being launched at regular intervals. Anderson County has three tests underway on separate structures, and the Mexia-Talco fault plane has a liberal share of wildcats.

Tide Water Associated Oil Company and Seaboard Oil Corporation's Monnig 7, first Trinity test for Long Lake field, Anderson County, is nearing its goal, with the log showing broken shale and anhydrite at 8730 feet. It is due to enter the lower Glen Rose lime section at about this level. The same partners in association with Humble Oil & Refining Company logged top of upper Glen Rose, which is entirely barren of production in the Woodbine basin, between 6270 and 6780 feet, according to report on McElreath-Suggett 1, Henderson County, and were drilling at 6490 feet. The latter concern, in conjunction with Gulf Oil Corporation, was drilling L. K. Riggs 1, northeast flank of Van field, near the 4000-foot level, after logging top of Georgetown lime at 3725 feet. Based on this marker it is only six feet higher structurally than the 7501-foot failure drilled on the northwest edge of the field by Pure Oil Company.

Trinity Test Enters Glen Rose

Tom F. Hunter et al's Gage 1, Blackfoot structure, Anderson County, was drilling at 7880 feet after entering first Glen Rose at 7029 feet, with an elevation of 384 feet. Pure Oil Company's Kendrick 16, Mexia field Trinity test, was drilling at 2000 feet, and C. F. Lytle et al's Roy Simmons 1, deep test for abandoned section of Wortham field, was drilling at 2330 feet. In Cayuga field, Anderson County, Roeser-Pendleton, Incorporated's Bower 3, third Trinity test for the field, was drilling near the 4200-foot level, with production due near the 7500-foot level.

Stanolind Joins Search

Stanolind Oil & Gas Company has joined the Trinity production seekers, and will start operations immediately to fulfill a contract assumed in acquiring control of a block in Hunt County, near Campbell. Location is in the northeast part of the J. P. Hawkes 110-acre tract, Robert Ragsdale Survey. Drilling of a second Trinity project on the Mount Enterprise faulted structure, eastern Rusk County, will be attempted by John J. Mayo, Houston, et al, on a portion of the block originally held by Pure Oil Company when the latter drilled a 7799-foot failure last year. The Paluxy section of the Trinity is the objective of the Hopkins County wildcat to be drilled by W. Pink Chandler et al on the J. M. Hargroves tract, G. Lincecum Survey, about 10 miles southwest of Sulphur Bluff.

Placid Oil Company, Shell Petroleum Corporation, et al's J. T. Elliott 1, northeastern Houston County wildcat on the Procella structure, was coring in soft shale at 6065 feet. This test showed high gravity oil, gas and salt water April 1 when a formation tester was used in Woodbine sand at 5870-79 feet, with an elevation of 371 feet. It is about six miles northeast of Grapeland. American Liberty Oil Company et al's J. A. Bean 1, second Woodbine test for the Grapeland structure, showed water with high pressure gas when plugged back from 6253 feet to gun-perforate seven-inch pipe opposite gas sand logged at 6018-64 feet, with first water at 6089 feet. Upon the completion of this well, rig will be moved northwest of the discovery well to drill on the W. L. Moody fee. In southern Houston County, C. & G. Oil Company and Duval Williams, Dallas, have moved in rig to make a 2200-foot test in the southwest corner of the E. M. Young 34-acre tract, J. J. Thomas Survey. It is on a 2000-acre block, lying east of Lovelady.

Reduction of individual well allowable at Talco from 95 to 84 barrels daily effective April 1, resulted in the output of the field dropping from a peak level to 21,465 barrels daily average for the week ending April 5. There are 265 completed wells. Return of warm weather has aided pipe line movement of the oil, and field congestion has been relieved.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Atlantic Ref. Co., L. J. Pinkston 13-C (84.29-ac)	750	3655
Gulf Oil Corp., S. B. Stone 15 (107.58-ac)	6200	3791
W. H. Gant-Garvin-Wegener, J. N. Hale 13 (158.64-ac)	500	3550
Hunt Oil Co., A. B. Wooley 10 (53.15-ac)	6000	3788
T. L. Jaggers & Taylor, Dan Dickerson 1-A	38	3605
M. A. Kline & Neal Powers, M. Lee 5 (37.2-ac)	8000	3641
Magnolia, A. E. Tyiska 13 (87.31-ac)	3500	3837
McClanahan & Venable Oil Co., Birdwell 46 (147.04-ac)	9200	3606
Tide Water Associated, Ras Pool 12 (65-ac)	7200	3737
KILGORE AREA—		
Carter & Baggett (was J. J. Jenkins), G. W. Culver 4 (63-ac)	120	3525
Gulf Oil Corp., Strong 19, (137.3-ac)	5500	3697
M. R. Terrell 9 (60.25-ac)	7000	3619
J. C. Hawkins et al, C. H. Hedge 2 (47½-ac)	160	3650
Houston Oil Co., N. B. Bean 6-B (40.95-ac)	3600	3636
Potter Bros. Prod. Co. (was R. W. Campbell), Culver 2 (18¾-ac)	240	3530
Shell, H. T. Elder 6 (21.57-ac)	8000	3549
H. T. Neal 9 (40.7-ac)	9400	3595
Stanolind, J. R. Beall 10 (80.28-ac)	480	3664
Stanolind & Crosby, M. R. Terrell 6 (50-ac)	7300	3624
The Texas Co., J. M. Dickson 13 (88.4-ac)	8000	3600
Tide Water Associated, M. B. Hughey 31 (200-ac)	4500	3535
Wise & Jackson, Wash Dickey 2 (30-ac)	600	3693
Zenith Corp, W. P. Crews 4 (10.2-ac)	2500	2720
LONGVIEW AREA—		
Atlantic Ref. Co., W. R. Nicholson 11-B (75-ac)	5000	3645
Atlantic-J. K. Wadley, P. C. Castleberry 8 (37.8-ac)	10,000	3745
Chas. J. Atkinson et al, E. A. Skipper 3-B (21.92-ac)	3000	3548
Barnsdall Oil Co.-Sun Oil Co., L. Bingham 15 (99.56-ac)	10,500	3525
L. Bingham 16 (99.56-ac)	11,000	3516
Barnett Pet. Corp., G. C. Cannon 4-A (40-ac)	*	3683
Bell Oils, Inc.-Frank W. Bennett, J. W. Moore 1 (40-ac)	*	3785
Gilcrease Oil Co., A Christian 8 (40-ac)	7500	3612
Humble, L. Christian 9 (36.3-ac)	9400	3746
E. W. Smith 7 (51.4-ac)	4500	3707
Thos. D. Humphrey, F. P. Branson 9 (47-ac)	1500	3634
Joe Long Drlg. Co. et al, W. W. Owens 7-C (72-ac)	168	3654
T. P. Looney & Singer, C. T. Shelton 4 (21-ac)	1500	3739
Magnolia, H. Fenton 6 (50-ac)	1000	3779
Bobby Manziel et al, E. L. Gillespie 2 (17-ac)	360	3696
Monday Oil Co., T. B. Harris 8-C (60.85-ac)	184	3565
Nat'l. Oil & Grease Co., K. C. Moser 8 (15-ac)	9000	3600
P. H. Pewitt et al, J. H. Sobey 3-B (15-ac)	1500	3670
Shell, B. Moore 9 (47.73-ac)	10,000	3595
Sinclair Prairie, W. H. York 19 (86.45-ac)	5500	3566
Sun Oil Co., J. Hargrove 18 (200-ac)	1200	3706
Tide Water Associated, Lake Devernia 41 (270.85-ac)	10,400	3525
United E & W Oil Co., E. L. Walker 12 (62-ac)	1500	3603
J. K. Wadley et al, E. L. Gillespie 5-A (200-ac)	600	3706
CASS COUNTY (Rodessa)—		
Gulf, Dawson 4, J. H. Rives sur	240	6005
Magnolia, Lewis & Wicks 5, Cass County School sur	280	6080
Phillips, Farrier 8, Wm. R. Meyers sur	444	6088
United Gas, Willis 5, Wilson Robinson sur	380	6025
Terry Unit 1, Robert Potter sur.	¶15	5660
Bostwick 1, Jno. Coleman sur.	¶16½	5684
Parker 1, Jno. Coleman sur	¶6	5695
Bivins Unit 1, Jas. Davenport sur	345	5986
HARRISON COUNTY—		
C. M. Bagley, J. N. Trosper 2, C. Davenport sur	16	2453
PANOLA COUNTY—		
Motex Oil Co., J. M. Furrh 1, Thos. Alstone sur	*	6175
FRANKLIN COUNTY (Talco Field)—		
Byrd-Frost, Inc., et al, E. L. Phillips-Gulf 2 (400-ac)	240	4312
Housh & Thompson, Inc., C. L. Owings 6 (109-ac)	514	4315
HENDERSON COUNTY (Cayuga Field)—		
Schmullen & Sweeney, Ike Brown 1 (50-ac)	3500	4100
HOPKINS COUNTY (Sulphur Bluff Field)—		
W. L. Goldston-Big State Oil Corp., Smith 12 (450-ac)	1500	4528
D. S. Hager-W. P. Luse & Russ Pet. Co., Pierce 1 (97-ac)	1200	4522
F. D. Jones Drl. Co. et al, Pierce-Gulf 6 (150-ac)	1000	4519
Pierce-Gulf 9 (150-ac)	1500	4502
TITUS COUNTY (Talco Field)—		
Adams & Lyles, Pat Davis 1 (41.7-ac)	480	4337
Byrd & Frost, Inc., G. W. Belcher-Gulf 3 (80-ac)	480	4270
R. H. Harper-Gulf 3 (40-ac)	364	4227
W. B. Hinton et al, Pat Davis 2 (12.99-ac)	330	4330
John Hargrove 9 (133.29-ac)	600	4310
Humble, J. M. Belcher 2 (166.37-ac)	380	4335
Cattie Edwards 1 (6.65-ac)	377	4325
E. L. & B. Riddle 2 (79.67-ac)	243	4340
R. E. Moore, Tr., W. T Edwards 1 (20-ac)	480	4301
J S. Rushing et al, C. T. Mitchener 4 (37.2-ac)	150	4286
Tide Water Associated, L. H. Wilson 2 (129.21-ac)	120	4335
W. M. White-N. L. Rushing, E. Unsell 1, lot 14, blk 17	127	4297
VAN ZANDT COUNTY (Van Field)—		
Pure Oil, R. E. Cade 8 (50-ac)	7200	2957
CHEROKEE COUNTY—		
Joe A Sanders-Fensland Oil Co., J. W. Ware 1-A (106-ac)	*	4036
RED RIVER COUNTY—		
Carpenter Oil Corp., J. M. Roberts 1 (100-ac)	*	1180

*Failures; †Junked; ¶Million cu. ft. gas.

New fields and extensions on lower Texas coast

* * *

Real County wildcat test has show of gas

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New Mirando sand field showing for Webb County

Corpus Christi.—Several South Texas Gulf Coast wildcats were in final stages of completion late in the week, apparently opening new fields and new producing sands in present fields. These tests are the follow-up to other wildcat completions earlier in the week.

I. J. Allen and Seaboard Petroleum Corporation's J. O. Chapman 3, in the Chapman Ranch area, Nueces County, was opening a new sand, 1400 feet shallower than the discovery horizon, as the week closed. It cored sand at 5045-56 feet and on a drill-stem test from 5044-56 feet, flowed 41-gravity oil under 145 pounds working pressure in 15 minutes, the test being made through ¼- and ⅜-inch chokes. Casing was landed at 5049 feet.

On April 9, the well was flowing at the rate of 4½ barrels of 41 gravity oil per hour through ⅛-inch choke under pressures of 380 pounds on tubing and 840 pounds on casing. Preparations were being made to move the rig another 1320 feet east for Chapman 4.

The well is 660 feet out of the southeast corner of the SE SW Section 38 and is 1320 feet east of the discovery well. The discovery, producing from a 6400-foot horizon, showed distillate and gas in the 5000-foot level.

Ganado Proving Productive

The Ganado prospect in Jackson County was being proved productive by The Texas Company's T. N. Mauritz 1, SE corner 210-acre tract in the Morris and Cummings Survey, Abstract 305. The well is bottomed at 5112 feet in a sandy section which was topped at 5087 feet. Casing is set at 5080 feet. The production is from the Marginulina, which was topped at 4930 feet. Top of the Discorbis is 4480 feet and elevation is 68 feet, derrick floor. The Texas Company has about 6,000 acres in the block. The test is five miles southeast of Ganada and is on a geophysical prospect.

No information was available April 9 on the well, but it was understood that it would be washed in during the day. On a previous attempt, the tubing became clogged and had to be rerun.

Two Victoria Extensions

Two important extensions were provided to Victoria County areas, both being in the Frio. Commonwealth Oil & Gas Company's W. H. Bennett 3, J. E. Galban Survey, 1 mile north of the Heyser field, was flowing 4 barrels of oil per hour through 5/32-inch choke and still cleaning. The well is bottomed at 5476 feet, having topped the sand series at 5415 feet. The oil sand was encountered at 5464-71 feet, casing landed on bottom and perforated at 5467-71 feet. This is the first production for the Heyser field in Victoria County, the well being only a few hundred feet across the Calhoun County line.

Union Oil Company of California was successful in completing its extension well to the Keeran field, Victoria County. The well is Claude A. Keeran 3, which was flowing 23 barrels per hour through 5/16-inch choke under pressures of 675 pounds on tubing and 850 pounds on casing. The well had not fully cleaned itself and further increases in pressure are expected. The well is bottomed at 6605 feet, and casing perforated at 5695-5704 feet. In the M. de Leon Survey, it is 2500 feet southeast of the nearest producer, which is a gasser, and is 1 mile east of the nearest oil well.

Deeper Production at McCampbell

Buckingham Oil Company and Edwin M. Jones were recementing McCampbell Ranch 2-B, potential discovery well of deep Frio sand production in the McCampbell field, Aransas County. The well encountered a sand section from 7320-7400 feet, drilled to 7546 feet, set casing at 7440 feet and perforated between 7350-60 feet. The well started cleaning into the pits showing some oil and wash water through 5/32-inch choke with 800 pounds casing and 250 pounds tubing pressures. The water became very brackish and it is believed that the cement job did not hold sufficiently. The section will be reperforated following the squeeze cement job. Production in the field is coming from a 6550-foot Marginulina sand.

New Deep Sand Making Oil

Wellington Oil Company's Sevier 14, which recently opened a new deep sand in the Clara Driscoll field, Nueces County by flowing considerable distillate and gas went to oil and late in the week was flowing at the rate of 87 barrels of 31 gravity crude per day through 3/16-inch choke under pressures of 1700 pounds on casing and 1300 pounds on tubing. On its original completion at 5425½-33 feet, it flowed through ⅛-inch choke under pressures of 1600 and 1800 pounds on tubing and casing, respectively.

United Production Corporation's W. H. Harvey 1, Garcia Survey, deep outpost to the Agua Dulce field, Nueces County, was shut down for repairs at 7660 feet. It has had several sands showing both oil and gas. Texon Drilling Company, several miles to the south, was continuing to pump mud and water into the wild crater from Clara Driscoll Sevier 2-B, relief well. The crater was showing signs of dying under the continued flow of water. Southern Minerals Corporation's Richard King 1, Section 32, 1½ miles northeast of the King Ranch field, was coring at 5555 feet, near the base of the Frio, encountered at 3644-54 feet.

In London field, also in Nueces County, Cosner & Cosner's Stockton 1, offset to the discovery well, flowed at the rate of 8 barrels per hour through 3/16-inch choke under pressures of 350 and 1200 pounds on tubing and casing, respectively, from 4703-19 feet. Gem Oil Company's M. L. Stockton 1 was swabbing at 4719-23 feet, showing some oil and 30 percent salt water. Crown Central Petroleum Corporation's Stockton 1, made a drill-stem test at 4690-4715 feet, which in 21 minutes developed 90 feet of salt water through ⅜- and ¼-inch chokes. It is drilling ahead.

Contract Deep Jim Wells Test

Magnolia Petroleum Company et al have let contract for a deep test, possibly to 9000 feet, for the southeastern portion of Jim Wells County. The well will be A. A. Seeligson 7, 5000 feet out of the southeast corner of the 10,443.7-acre lease in the Los Jaboncillos Grant, 4 miles southeast of Ella and 1 mile west of the Kleberg County line. This block is held jointly by three companies, Magnolia Petroleum Company having a ½ interest. Transwestern Oil Company ¼ interest and Sinclair Prairie Oil Company, ¼ interest.

Barnsdall Oil Company was drilling ahead below 6990 feet in Kate Edwards 1-A, on the Lamar prospect in Aransas County, about 1000 feet above the sand from which Edwards 1 blew out and ran wild several months ago.

Calhoun Test Stuck in Shale

Hiawatha Oil Company's John Roemer Estate 1, Ogsberry Survey, 5 miles northeast of Seadrift in Calhoun County, apparently is in heaving shale at 8470 feet. The well, a deepening job, was carried ahead from 8378 feet to the present depth at which level a string of pipe was to be set. The drill pipe is now stuck at 8300 feet and efforts are being made to recover.

United Production Corporation was tied up with a fishing job in its deep test in the Refugio field, Refugio County. The test, J. J. O'Brien 12, Refugio Town Tracts, has drill-stem stuck on bottom at 8204 feet.

The Gregory sector of San Patricio County continues to retain considerable interest despite the fact that closed wells prevent adequate information. Eleanor Oil Company's Green 1, Williamson Survey, was coring below 7205

feet, having passed through a series of sand bodies, carrying oil, gas and water. Phillips Petroleum Company's Schmidt 1, Section 81, was drilling hard shale below 6695 feet. Wheelock & Collins have spudded a new well for the area, being Inez Willis 1, Lot 3, Block 3, Gregory subdivision, 3 miles northwest of Gregory.

Hill Country Test Has Gas

San Antonio.—Sun Oil Company was preparing to run a string of 5½-inch casing to test a showing of gas encountered in lime section at 5356 feet in Dietert & Oppenheimer 1, Real County wildcat. No definite determinations have been made as to the zone from which this gas is coming, but it possibly is Mississippian or upper Ordovician. Elevation is 2370 feet, ground.

The well is located 1980 feet from the east line and 660 feet from the south line of Section 7, GWT & P, Section 7, and is 3 miles west and 18 miles north of Leaky.

This test previously had a showing of gas in sandy lime in the Pennsylvanian series at 4426 feet, where the volume was estimated at several thousand feet per day. The hole, now bottomed at 5653 feet, is bridged just below 5610 feet, about which level the 5½-inch pipe will be set. Casing is being set for a dual purpose, one to test the showing and the other to prevent further caving for the continued drilling.

New Mirando Sand Field

Laredo.—A new Mirando sand field on the Lopez trend of the Mirando district was considered to be assured late in the week with O. W. Killam's Laurel Brothers 1, Webb County, preparing to drill plugs after coring sand at 2031-35 feet. Drill-stem test from 2026-35 feet developed 240 feet of Mirando type oil and a good gas blow in 20 minutes through ⅜-inch chokes, top and bottom.

The well is located 330 feet from the south and east lines of Survey 333, and in lot 29. It is 2 miles northeast of Oilton and the same distance east of the Laurel field, productive in a lower Jackson sand.

Probably Important

This discovery is looked upon as important, due to the fact that the Lopez field, along the same trend, has developed into one of the most important producing areas in the Mirando district. Shallow sand, low cost of operation, even condition of the sand and high recovery blend into forming one of the most profitable zones in the South Texas district. Just how important this particular discovery is depends on the size of the sand lens. The well is structurally lower than several other wells in the general area, which showed salt water in the Mirando sand, apparently another lens of that sand.

Eugene Garner Jr. had set a string of 7-inch casing to 1001 feet to test oil sand at 1001-6 feet in R. Salvidar 1, Section 657, also in Webb County. The well gives promise of opening production 12 miles south of Aguilares.

E. R. Thomas Estate et al's Lillian Parr 1, Section 26, northwest of San Diego in Duval County, was drilling near the 4400-foot horizon, after showing oil, gas and salt water in an upper Jackson sand at 3972 feet. On a drill-stem test at 3952-72 feet, the test recovered 2 joints of oil and 100 feet of salt water under 225 pounds working pressure in 5 minutes. The hole was reamed to 3964 feet and another test of the same duration recovered 20 feet of oil and 300 feet of mud and salt water with 250 pounds pressure.

Between Seven Sisters and Loma Novia, Duval County, A. J. Brinkoeter's P. Garza de Rodriguez 1, Section 212, was continuing to increase its oil volume as it was being swabbed April 9. Oil stood to within 400 feet of top of the hole but would not flow. Pressure on the casing had built up to 150 pounds. It likely will make 100 barrels per day on pump, from Loma Novia sand at 2646-56 feet.

Fault Area Growing Important

San Antonio.—Additional Austin chalk production was provided in Guadalupe and Caldwell Counties as new discoveries were recorded in this shallow Balcones fault zone. This particular district is becoming important from a production standpoint.

J. R. Brinkley Jr. Oil Company's W. F. Trammell 1, R. H. Hunter Survey, 2 miles northeast of the Luling field, Caldwell County, made 121.5 barrels of 38.1 gravity oil per day on a potential test after acidizing with 5,000 gallons. Other reports are that it pumped 30 barrels of oil and 18 barrels of salt water on a settled gauge. The well is bottomed at 2314 feet, having topped Austin chalk at 1990 feet and Buda limestone at 2302 feet.

W. J. Walton et al's P. K. Delaney 1, J. Cantu Survey, 2½ miles southwest of the Zoboroski field, Guadalupe County, was showing a small amount of oil via the swabbing method at 2215 feet. It topped Austin chalk at 2020 feet, had its base at 2166 feet and topped Buda limestone at 2207 feet. Casing was landed at 2020 feet. The test likely will be acidized, where it is expected to make some sort of producer.

One mile northeast of the same field, Walton's Hoffman 1, recently completed in chalk at 2340-2545 feet, flowed 540 barrels per day through ¼-inch choke with 30 pounds working pressure. The well was acidized with 1,000 gallons. Several thousand feet still farther northeast and on strike, R. B. Byrd et al's L. Schueneman 1, Green DeWitt Survey, found some saturation in chalk topped at 2395 feet, but abandoned at 2595 feet.

Boost Saxet Output

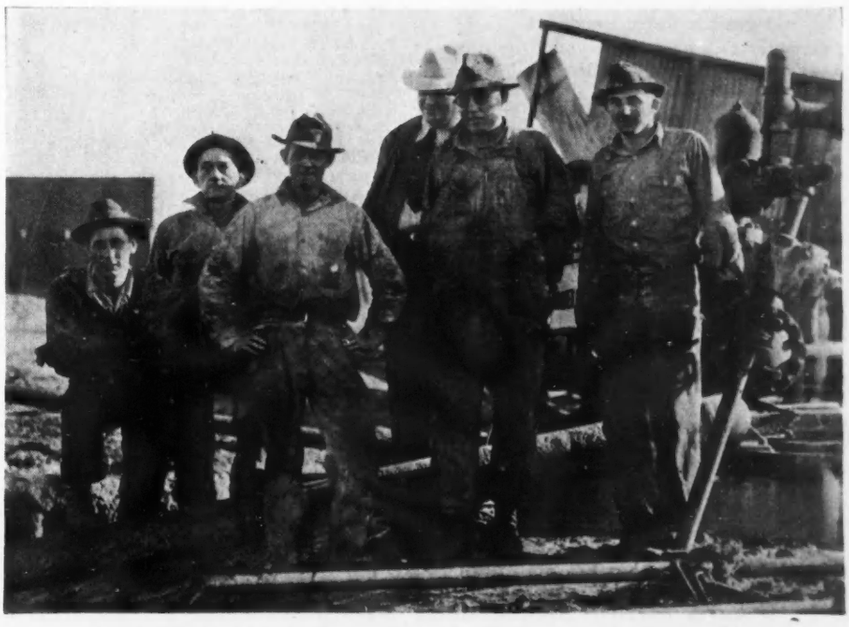
Austin.—The Texas Railroad Commission has issued an order retroactive to April 1, increasing the allowable of wells in the New Saxet Frio field, Nueces County, to 100 barrels daily per well. The April order had fixed the allowable at 89 barrels per well.

The order issued stated that the Commission had been advised that the additional oil was needed to supply contracts for foreign shipments. It increases the allowable from 12,936 barrels to 15,308 barrels for the field as a whole.

New Sand in Slick Field

Beeville.—Dirks Brothers et al's Dr. G. W. Allen 1 definitely established production in the Yeguna sand, possibly Conroe, in the Slick field of Goliad and Dewitt Counties. The well was flowing considerable gas, some 48-gravity oil, wash water and mud from 4404 feet. The flow is through 3/32-inch choke with pressures 1475 pounds on tubing and 1525 pounds on casing. The well is in the Obid Marshall Survey.

The test topped the sand at 4376 feet and found sand and broken material to



Crew on the Saxet Production Company's Grimm 1, new flowing producer in the South Darst Creek field, Guadalupe County. This company is operating its own rig and has drilled three good producers to date in this Austin chalk area. They are, left to right: H. H. Harkins, E. F. Hausmann, D. R. Moon, W. L. Pearson, manager of the company; J. W. Byrne, driller; and George Whitworth.

the bottom in sand. The production is coming from the last 10 feet of the horizon, casing being set at 4394 feet.

Present production in field is from the Pettus sand above 4250 feet.

Plummer Well Flowing

H. H. Weinert and Harry Freeman et al's James Smith 1, in the Plummer field, Bee County, is flowing 10 barrels per hour through ⅛-inch choke under pressures of 800 and 1100 pounds to provide the second oil well for this area. The field has been primarily a gas zone and completion of this well indicates that the flanks of the structure may provide good oil producers. The Pettus section was found from 3033-49 feet.

Hidalgo Test Has Sand

Mission.—Sterling Oil & Refining Company set 7-inch casing at 7984 feet after coring oil sand at 7984-8012 feet in J. C. Engelman 1, Lot 5, Block 95, wildcat in the La Blanca area of Hidalgo County. Several other wells in the district found this sand, but it showed mainly gas in completion attempts. The other wells set casing through the sand and attempted completion via gun perforation, while in this case it was elected to set casing atop the horizon.

Gulf States Oil Company's J. C. Engelman 3, in the Mestenas field, also in Hidalgo County, has been abandoned at 8110 feet. The well showed salt water and gas in the several sands above this depth.

K. E. Merren's Starr County Cattle Company 1, Block 34, Porcion 89, which attempted to blow out from the Cockfield at 5377-81½ feet, finally has succeeded in killing the well and pumping a cement plug to 4847 feet. Efforts will be made to sidetrack and recore the horizon. The well is located in the Barbacoas area of Starr County and in the general vicinity of another well which showed both oil and gas in this horizon.

Possible Starr Producer

Danrey Oil Company was drilling plugs in C. Ramos 1, Section 150, Starr County, showing for a possible producer in sand section at 1262-63 feet and 1275-80 feet. John H. Clopton et al's Green 1, Block 5, Share 85, northeast of the Rio Grande City field, same county, was shut down after showing several million cubic feet of gas with considerable salt water through perforations at 1604-14 feet. The well had been drilled to 4620 feet. This well, showing 425 pounds rock pressure, may be the key to further oil exploration in the area.

Willacy County's deep test was drilling below 8436 feet in hard shale late in the week. It is Shell Petroleum Corporation's Yturria 1, on the La Sal Viejo prospect.

GET PAY INCREASE

Dallas, Texas.—Employees of Atlantic Refining Company and Atlantic Pipe Line Company were granted an increase in wages effective April 1, according to officials. Field, pipe line and refinery workers participated in the adjustment by having the hourly scale raised, while the office personnel of the two concerns were granted raises on a percentage basis.

Texas Permits Up

Austin.—The Texas Railroad Commission approved last week permits for drilling 412 new wells in Texas, 92 more than were allowed the week before.

Southwest Texas reported 116 permits, the most for any one district. This included 71 permits in Zapata County and 11 in Duval County. There were 61 locations from the Gulf Coast, with 11 in Nueces County and 10 in Refugio County.

There were 73 locations in East Texas field, with 33 in Gregg County, 25 in Rusk County, 10 in Upshur County, and five in Smith County. The remainder of the East Central Texas district reported 38 locations, with 14 in Anderson County and 11 in Titus County.

West Texas operators list 56 locations, including 23 in Winkler County and 12 in Ward County.

There were 22 locations from the Pandle, 11 of which were for wells in Hutchinson County.

North Texas reported 30 locations, with 10 in Jack County. There were 16 permits for West Central Texas.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
SAN ANTONIO DISTRICT		
CALDWELL COUNTY—		
J. R. Brinkley, Jr., Oil Co., W. F. Trammell 1, 150 ft el, 300 ft sl of 113-ac lse out of 170-ac lse, Robt. H. Hunter sur	50	2314
Eckert & Son, J. M. Fulps 1, J. Neil sur (Branyon)	75	2200
O. S. Strickland, W. H. Callihan 1, Miller sur (Branyon)	*	2360
W. M. Vaughey, M. O. Flowers et al 3, D. Cooper sur (Branyon)	45	2200
FAYETTE COUNTY—		
McNeil Pet. Co., V. Dybala 1, 1056 ft nwl, 150 ft nel 79-ac tr, A. Thompson league	*	4010
GUADALUPE COUNTY—		
R. B. Byrd, Lizzie Schueneman 1, 150 ft wl, 3356 ft nl of 100-ac tr, Green Dewitt sur	*	2595
MILAM COUNTY—		
J. C. Kilgore, Trustee, W. H. Blancett 3, 150 ft sl of 111-ac tr, 1350 ft el of Juan Jose Acosta sur	*	50
LAREDO DISTRICT		
DUVAL COUNTY—		
Conservative Oil Co., Brown-Sentz-Murrell 1, sur 52 (Colmena)	18	1470
Cox & Hamon, J. B. Peal 9, sur 796 (Lopez)	240	2216
N. V. Duncan, Worden & Drought 5, sur 151 (Charamousca)	65	1522
Frank J. Gravis & Parr Oil Co., C. W. Hahl 2, sec 64 (Loma Novia)	75	2550
Humble, Dowdy-Fee 7, sur 272 (Seven Sisters)	155	2551
M. C. Hubberd 18-A, sur 84 (Loma Novia)	375	2840
M. C. Hubberd 19-B, sur 83 (Loma Novia)	755	2768
M. C. Hubberd 26-B, sur 83, (Loma Novia)	*	Icn.
G. Ruiz Est. 24, sur 553, (Loma Novia)	*	Icn.
G. Ruiz Est. 28, sur 553, (Loma Novia)	¶27	2878
Magnolia, DCRC 2, sur 152 (Charamousca)	100	1563
Mortimer & Springer, J. B. Peal 26-B, sur 796 (Lopez)	460	2206
John J. O'Hern, S. Benavides 1-C, blk 25 (Cole-O'Hern)	480	2846
Russ Pet. Corp., H. Tuck 1, sur 64, (Government Wells)	*	2591
Texas Co., A. H. Badgley 12, sur 307 (Seven Sisters)	1155	2629
DCRC 2-C, 1650 ft nel, 2351 ft nl of sur 194	*	2169
Westheimer & Daube, Z. Campos Est. 32, sur 224 (Seven Sisters)	315	2717
McMULLEN COUNTY—		
Loma Oil Co., L. Jacob Corp. 4-B, sur 15 (N. Jacob)	5	1055
STARR COUNTY—		
St. Mary's O&G Co., Seabury et al 1, por 75 (Los Olmos)	*	1017
Sun Oil, Chapotal Land Co. 4, por 99 (Samfordyce)	*	2040
WEBB COUNTY—		
Cole Pet. Co., Rosa de Benavides 99, blk 10, sur 412 (W. Cole)	*	3464
C. H. Lewis, A. Lopez 2, sur 110 (Lopez)	240	2252
Smith & Hamill, S. Benavides 25, blk 501 (Cole-O'Hern)	*	2954
Sun Oil, S. Benavides 6, blk 440 (Cole-O'Hern)	155	2935
ZAPATA COUNTY—		
Sam Evans, M. Garza Est., blk 19 (Escobas)	20	1341
Magnolia, A. D. Haynes 29, sur 7 (Comitas)	*	1238
A. D. Haynes 33, sur 7 (Comitas)	*	1183
Texas Co., Whitehead 97 (Cerrito Blanco Grant)	*	1617
Valley Osage Oil Co., A. D. Haynes 5, sur 14 (Comitas)	35	1138
A. D. Haynes 6, sur 14 (Comitas)	40	1155
The Zapata Co., M. Garza Est. 14, blk 22 (Escobas)	*	1523
CORPUS CHRISTI DISTRICT		
ARANSAS COUNTY—		
Atlantic Refg. et al, McCampbell Ranch 4-C, lots 11 & 12 (McCampbell)	270	6550½
BROOKS COUNTY—		
Standard of Texas, Braulia Garcia 3, tr 2 (Alta Mesa)	370	2479
CALHOUN COUNTY—		
Humble & Plymouth, P. H. Welder 12-B, A. Sisneros sur (Calhoun), perf 5482-86	500	5495
HIDALGO COUNTY—		
Cosmo Petr. Co., F. B. Guerra 1, por 40 (Samfordyce)	¶10&40	2975
Ralph E. Fair, Inc., M. F. de Chapa 2, por 39 (Samfordyce)	275	2940
Gulf States Oil Co., John Engleman 3, 200 ft el, 300 ft sl, lot 3, blk 70, Las Mestinas gr (Mestinas), owdd, old td 6812	*	8110
JIM WELLS COUNTY—		
Diamond Half Oil Co., F. G. Peterson 1, sec 76 (Premont), perf 2247-57	¶10&75	2662
Mary B. Thirkill 1, lots 66 & 79, sec 77 (Premont), perf 2242-50	200	2275
Gouger & Mode, F. Bennett 1, lots 55 & 58 (Premont)	150	2259
LIVE OAK COUNTY—		
L. W. Stieren, F. Lange 1, 2500 ft wl of lot 597, 2640 ft sl of sec 31 Simmon's subd Adams sur	*	1700
NUECES COUNTY—		
Crown Central Pet. Corp., Rand Morgan 7-AA, sur 315 (Saxet)	130	4450
W. B. Hinton, E. B. Cole 5, Pates Lands subd (Saxet)	*	4881
Humble & Barnsdall, Josie Miller 3-A, lot 20, blk 56 (Flour Bluff)	660	6669
J. O. Phillips 3, lot 14, sec 55 (Flour Bluff)	515	6658
E. M. Jones, Lucey Cooke 1, 2500 ft nl, 330 ft el 546-ac tr, Quadrilla Irrigation Co. sur 139	*	7424
Phillips Pet. Co. Katherine Hutchins 5, lots 29 & 30 (Saxet), perf 6893-99 ft	370	6949
Richardson Pet. Co., Cain & Sechrist 10, blk 23, Russell Farm lots (Saxet)	415	4459
Wellington Oil Co., Clara D. Sevier 14, Wm. Gamble sur (Clara Driscoll)	240	5432
REFUGIO COUNTY—		
Illinois Pet. Corp., Wilson Heard 2, Ximines sur (Greta)	2285	5952
Quintana Pet. Corp., F. V. W. Heard 5, T. H. Webb sur (Tomoconnor)	*	2100
United Prod. Co., F. M. Lambert 40, J. M. Swisher sur (Tomoconnor)	700	5940
SAN PATRICIO COUNTY—		
Plymouth, E. H. Welder 65-C, sec 50 (Plymouth)	*	6993
VICTORIA COUNTY—		
Crown Central, O. M. Lander 3, J. M. Brownson sur (Placedo)	200	4786
Magnolia, Charlie Sklar 6, lot 7, sur 7 (Placedo)	260	4769

*Failures; †Junked; ¶Million cu. ft. gas.

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TEXAS GULF COAST

Having trouble with discovery well at Aldine

* * *

Stanolind gets another sand in Clinton well

* * *

Silsbee outpost killed after flowing salt water

Houston. — Texas Gulf Producing Company probably will perforate casing again in Gillespie 1, Aldine area, S. Contreras Survey, Harris County, which last week indicated it would open a new producing district for the Texas Gulf Coast. The test has been washed, swabbed, and rocked with gas in an attempt to start oil flowing from Upper Saline Bayou sands from 7097 to 7100 feet.

After casing was perforated with four shots from 7097 to 7100 feet the hole was washed and the wildcat started flowing gas, distillate, and salt water through open tubing. Casing pressure then was 275 pounds. The well finally went dead. After running the swab line in the hole several times it was kicked out of the hole and the well started flowing oil, gas and no water through a quarter-inch choke. Tubing pressure was 800 pounds. Later the well died and it was washed and started flowing April 7 through a quarter-inch choke, gas, wash water, and a little oil. Tubing pressure was 1000 pounds and casing pressure was zero. The tubing pressure finally dropped to 400 pounds and the well died again.

Bammel Still Yields Gas and Distillate

In the Bammel area, near Aldine, Hamil & Smith's Zapp 1, J. Farwell Survey, Harris County, was closed in for several days last week and was then opened. Through a quarter-inch choke it made gas and distillate and showed a tubing pressure of 350 pounds and a casing pressure of 2425 pounds. After a Christmas tree was installed it started leaking and forced the operators to shut the well in. March 31 Zapp 1 was completed at 6211 feet as a gas and distillate producer to open a new area in the Gulf Coast.

Another sand was encountered in Stanolind Oil & Gas Company's Oates 1, south of the discovery well, Clinton field, C. Martinez Survey, Harris County, in a core taken from 8673 to 8709 feet. At the end of the week the test was coring ahead at 8783 feet in shale after losing circulation.

Another failure was registered for Hockley dome, Harris County, last week when Stanolind Oil & Gas Company abandoned J. Warren Minerals 1, H. & T. B. Survey 1, 6685 feet after taking several drill stem tests which showed salt water.

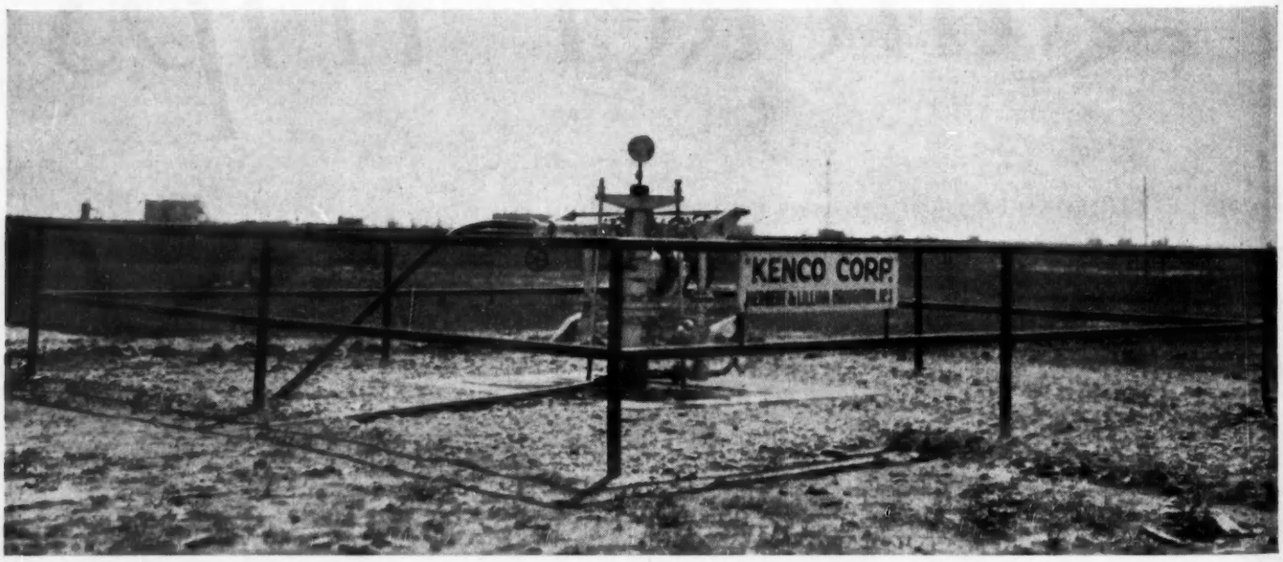
Cheek Wildcat Shows Salt Water

Humble Oil & Refining Company's Jefferson Land Company 1, Cheek area, Hillibrand Survey, Jefferson County, showed salt water again after a test at 7831 to 7834 feet last week. Casing was perforated with 10 shots and the well made gas and salt water. The wildcat was making about 2,000,000 cubic feet of gas daily through a quarter-inch choke. Closed in pressure was 2900 pounds on the tubing and 1000 pounds on the casing. While the well was flowing salt water yield was estimated at 10 barrels per hour. The test has been killed and probably will perforate again. Jefferson Land Company 1 no doubt opens a new gas reserve in the Texas sector of the Gulf Coast.

Five wells were completed at Anahuac, four by Humble Oil & Refining Company and one by Gulf Oil Corporation. Two of Humble Oil & Refining Company's completions were flank tests. White B-12, north side of the field, made 2,000,000 cubic feet of gas daily through a quarter-inch choke from 7106 feet and Drought 1, on the east side of the field, was completed at 7103 feet making eight barrels per hour through a quarter-inch choke. The other three wells completed were inside locations.

Clay Creek Test Abandoned

Sun Oil Company finally abandoned Lauter 1 on the southeast flank of Clay Creek field, N. Clay Survey, Washington County, at 8306 feet in salt after logging the top of salt at 8240 feet. Lauter 1 at one time created considerable excitement on the Gulf Coast as it indicated it would open a new producing horizon. It is believed that this well established a new record for the number of drill-stem tests made on any one well. A string of seven-inch casing was set at 7445 feet. A sand was encountered at 7471 feet, and from this depth to 7478 feet thin streaks of sand



Typical completed well in the northeast section of Dickinson field

and shale were encountered which contained odors of oil. Prior to drilling to 8306 feet a number of production tests were made of these sands, but each test showed salt water. After reaching the salt formation the hole was plugged back and a number of drill stem tests were taken from 7069 feet to 7400 feet.

Seven Important Locations

Seven important locations were made in the Texas Gulf Coast last week. In the Keno area, San Jacinto County, Cockburn Oil Company made location for Whitten Estate 1, 466 feet each way out of the northwest corner of the William West Survey. At Fairbanks, Harris County, Stanolind Oil & Gas Company announced location for W. S. Jacobs 1, 2042 feet north of the south line and 466 feet west of the east line of a 100-acre tract, or approximately 1600 feet east of the west line and 2025 feet north of the south line of W. C. R. R. Survey, Block 1, Section 2. H. J. De Arman et al made location for Tyrell & Garth 1 in the Cedar Bayou area, Harris County, 330 feet south and 330 feet west from the northeast corner of the L. Hemmingway Survey. Continental Oil Company's Hawkins 2, Sheppards Mott area, 3000 feet from the southeast line and 1600 feet from the southwest line of D. McCarthy Survey, is a new location. Glenn H. McCarthy has announced location for a new well in Palacious area, Matagorda County. It is 330 feet each way out of SEc SW Section 19, L. Goodwin Survey. At Katy, Waller County, Stanolind Oil & Gas Company made location for W. M. Hargrove 1, 1320 feet west and 1553 feet north of the southeast corner of T. S. Reese Survey, Section 110. Red Bank Oil Company's Roy Chapman 1 is 330 feet south and 150 feet east of the northeast corner of F. Q. Cook 200-acre tract in Waller County.

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ACE—		
Peyton Brothers, Doucett 1	*	4338
AMELIA—		
Humble, Freeman 1	624	6780
Gist Reality 1-B	624	6780
Lefler 2	590	6780
LeGrange 1	456	6780
ANAHUAC—		
Gulf, Wilcox 4	708	7080
Humble, Drought 1	192	7103
Grippon 11	744	7080
Middleton 26	262	7135
White B-12	¶2	7106
BATSON—		
Gulf, Wing 184	202	659
CLAY CREEK—		
Sun, Lauter 1, se flank test	*	8306
CONROE—		
Normandie, Falvey 27	*	5166
Strake, Dean 13	550	5109
Sun, South Texas Dev. Co. 6	564	5112
DICKINSON—		
Atlantic, Anderson 1	530	8090
Pure, Hutchins 1	¶3 & 138	8111
FANNETT—		
Gulf, Junker 7	*	6274
GOOSE CREEK—		
Gulf, A. Smith A-29	65	1763
HASTINGS—		
Albert Plummer, Brown 1	*	6197
Humble, Baker 1	624	6060
Brown 9-A	600	6080
Johnson 1	576	6100
Stanolind, McKibben 1	600	6031
HOCKLEY—		
Stanolind, Warren Minerals 1	*	6685
HUMBLE—		
Texas Co., Carroll 33	528	2989
LOCHRIDGE—		
Gulf, Baker 1	480	6368
MANVEL—		
Texas Co., Rash 1	*	7019
NOME—		
Shell, Paggi 5	380	6050
PIERCE JUNCTION—		
Superior Oil & Gas Co.'s Whitehead 2	130	3830
RACCOON BEND—		
Humble, Thompson 19-X	528	4110
SOUTH BAY CITY—		
Hammond Exploration Co., Croker 1, dr to 9575 ft, pb perforated 8190 to 8194 ft	350	9575
SOUTH HOUSTON—		
Stanolind, First National Bank 6	408	4035
Stanolind, Green 2	404	4023
SPINDLETOP—		
Unity Oil Co., Oakwood 3	370	2606
VAN VLECK—		
Skelly Oil Co., First National Bank 1	720	8235
WEST COLUMBIA—		
Texas Co., Abrams 15	*	6273
WITHERS—		
Texas Co., Pierce Estate C-24	96	5556

*Failures; †Junked; ¶Million cu. ft. gas.

One Tour of the Crew That Drilled Aldine Well

Left to right—Burford Goldshy, driller; B. I. Boles, engineer; Allen Williams (a visitor), Roland Romero and Seman Squyres, helpers.

Salt Water at Silsbee

Approximately 3500 feet east of production at Silsbee, Polk County, Humble Oil & Refining Company's Kirby Lumber Company 1, P. Garcia Survey, showed salt water on a production test last week at 5202 feet. It was killed and another production test will be made.

East of production at Ace, Polk County, Peyton Brothers abandoned Doucett 1, P. A. Sublett Survey, at 4838 feet after testing salt water in the regular producing horizon.

New Sand at Van Vleck

A new oil sand was found at Van Vleck field, Matagorda County, last week by Skelly Oil Company in Rugeley 2, west side of field, from 8040 to 8072 feet. Casing was perforated from 8060 to 8072 feet and the well flowed 20 barrels of fluid per hour with a good gas pressure. Fifty percent of the fluid was salt water and the rest oil. It is planned to "squeeze" cement through perforations and reperforate higher.

One of the best wells yet completed at Van Vleck was brought in last week by Skelly Oil Company. First National Bank 1, southwest flank, made 631 barrels of 35.3 gravity oil in 21 hours through ¼-inch choke. Tubing pressure was 1225 pounds, casing 1025 pounds. Casing was perforated from 8230 to 8235 feet with 35 shots.

Palacios Test Flows Fluid

According to a representative of Glenn H. McCarthy, who completed Foley Land Company 1, L. Goodwin area, Matagorda County, the previous week to open a new producing area in the Gulf Coast, "the well is flowing 11 barrels per hour, 9 barrels being 51 gravity oil or distillate with a light brown chocolate color and the remaining 2 barrels is fresh water, or what we call connate water, through a 12/64-inch choke. It has a casing pressure of 3000 pounds and a tubing pressure of 2800 pounds." Foley Land Company 1 was completed after perforating casing from 7830 to 7842 feet and from 7875 to 7895 feet.

The Texas Company probably will complete Kluck 1, Blue Basin prospect, J. Hyland Survey, Wharton County, as a gas well at 4654 feet to open a new gas reserve in the Gulf Coast. During the past week the operators made a drill stem test from 4638 to 4654 feet and the well showed a 500-pound pressure in 5 minutes through ¼-inch choke. Casing will be set to complete the well. If it produces gas, it will be the first one out of 6 drilled. Five were

drilled by Pure Oil Company before The Texas Company came into the block.

On the northwest side of Dickinson field, Galveston County, Atlantic Refining Company completed G. O. Anderson 1, P. G. Merritt Survey, flowing 530 barrels of pipe line oil daily through ¼-inch choke with a tubing pressure of 875 pounds and a casing pressure of 1500 pounds, from Frio sands at 8098 feet. Pure Oil Company also completed a well in this area last week. Hutchins 1 made 138 barrels of 53.8 gravity oil and 3,000,000 cubic feet of gas daily through ¼-inch choke with a tubing pressure of 2500 pounds and a casing pressure of 2900 pounds from 8111 feet.

Fourth Failure in 150 Wells Drilled

Out of approximately 150 wells drilled at Hastings field, Brazoria County, the fourth well was abandoned last week. The well was drilled by Albert Plummer on the northeast side of the field, approximately ¼ mile from production. This well also is the first test to define Hastings field in any direction since it was discovered in December, 1934. Albert Plummer's Brown 1, Perry & Austin Survey, was drilled to 6197 feet in salt water sand after logging the top of the sand at 6134 feet.

Besides the one failure at Hastings field last week, there were 4 oil producers completed. Humble Oil & Refining Company completed 3, and Stanolind Oil & Gas Company completed 1. Humble's Baker 1 extended the field slightly northwest when it came in making 26 barrels per hour through ¼-inch choke from 6060 feet. On the northwest side of the field, Stanolind completed McKibben 1, making 375 barrels in 15 hours through ¼-inch choke from 6031 feet.

7 LOUISIANA PERMITS

Shreveport. — Seven drilling permits were authorized last week by the minerals division, Louisiana conservation commission. Four were for North Louisiana divided between the following parishes: Bienville, one; and Caddo, three, two in Rodessa. The three in south Louisiana were all in St. Martin Parish.

SOUTH LOUISIANA

Gas and little distillate in South Roanake wildcat

* * *

Two new sands found in Lafourche Parish field

* * *

May drill Jefferson Island dome wildcat deeper

Lake Charles.—A new gas and distillate producing area was discovered in the Louisiana Gulf Coast April 7 when Shell Petroleum Corporation completed Sturdevant 1, South Roanoke prospect, Section 25-10s-4w, Jefferson Davis Parish, flowing gas at the rate of 2,720,000 cubic feet daily along with five-eights of a barrel of 52 gravity distillate per hour through a 10/64-inch choke with a tubing pressure of 1350 pounds and a casing pressure of 3150 pounds from Oligocene sands at 8540 to 8550 feet. The casing was perforated with 38 shots at the producing horizon.

Sturdevant 1, drilled to 9749 feet, stuck seven-inch casing while trying to set it. A long fishing job held up completion of the wildcat. Several times while going in with the cutting tool the test tried to blow out. Finally a string of seven-inch casing was cemented at 8630 feet with 500 sacks. While reaming below the seven-inch the well attempted to blow out again. The hole was then plugged back to 8630 feet and casing perforated with 38 shots from 8570 to 8590 feet. After washing the well failed to show anything of commercial value. The hole was again plugged back to 8560 feet and perforated at the producing sand.

Shell Petroleum Corporation obtained leases on an 8000-acre block south of the town of Roanoke and worked the area with reflection seismograph in 1935. After the geophysical work was completed a "high" was interpreted. Location was made for Joe Sturdevant 1, 440 feet south and 2245 feet west of the northeast corner of the section.

Two New Sands at Valentine

Two new producing horizons have been discovered at Valentine, Lafourche Parish, by Pan American Production Company and Barnsdall Oil Company. Harange 2-A, 46 feet east of Harange 2, Section 8-17s-20e, was completed in a new sand at 5390 feet and it made 26 barrels of 32.1 gravity pipe line oil per hour through a 5/32-inch choke. Tubing pressure was 720 pounds; casing pressure, 770 pounds. Harange 2-A was spudded in March 19 and 10¾-inch casing cemented at 1508 feet. Top of the

Separators handling the flow from Armstrong Plantation 1, original well at Old Ocean, are enclosed. The flow is heated by steam before it reaches the separators.

sand was logged at 5364 feet. A five-minute drill stem test showed four joints of fluid, 40 per cent oil, and one joint of sand.

The second new sand found at Valentine last week was at 7499-7522 feet in Pan American Production Company's Harange 3, Section 8-17s-20e. Approximately 11 feet of sand were recovered at the last mentioned depth which showed oil saturation. But due to the fact that Harange 3 showed a tremendous gas pressure at 7522 feet, it was decided not to make a production test at this time, but to drill deeper. If production is not found casing will be set and the high pressure sands will be perforated.

What is believed to be a third new sand at Valentine was shown in Pan American Production Company's Harange 4, Section 8-17s-20e. From 5414 to 5432 feet a five-minute drill stem test showed 1170 feet of oil, 630 feet of oil mud, and 90 feet of sand. The test was made from 5405 to 5432 feet through a quarter-inch choke on top and bottom of the testing tool, and while making the test the well showed a pressure of 15 pounds. This test will be carried down to the regular producing sand around 7000 feet. The operators may drill a twin well to Harange 4 as was done on Harange 2. The twin well will test the sands at 5414 to 5432 feet.

At Jefferson Island dome, Iberia Parish, Jefferson Lake Oil Company rigged up a 1½-inch gas line to Lake Peigneur 414, 12s-5e, and rocked the well with gas. The well flowed about 50 barrels daily and had a pressure of 700 pounds. It is understood that the company will drill Lake Peigneur 414 deeper. Some time ago erroneous reports were circulated that the well flowed 1500 barrels of pipe line oil daily from 6945 feet.

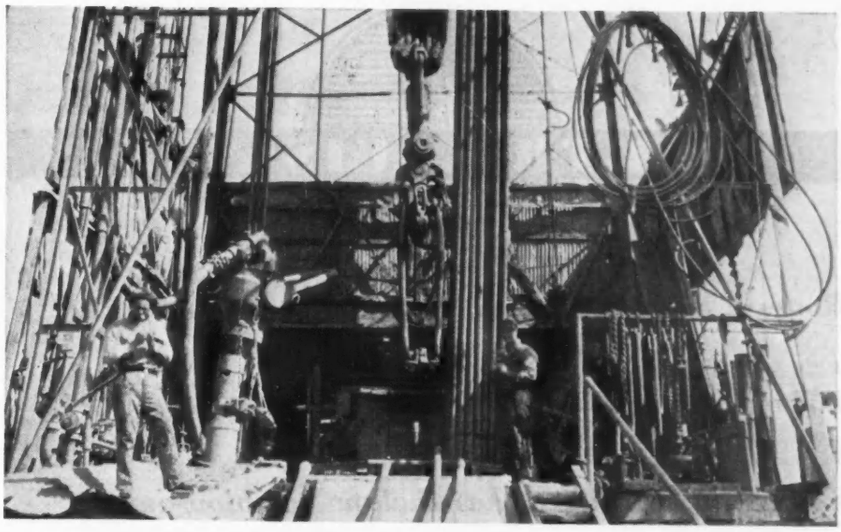
Another Below 11,000 Feet

The fourth 11,000-foot well in the Louisiana Gulf Coast is The Texas Company's Horseshoe Bayou 1, Wax Lake prospect, Section 40-17s-9e, St. Mary Parish. At the end of the week it was reported drilling below 11,239 feet in hard shaley lime formation. The crew was successful in fishing 9500 feet of surveying equipment out of the hole.

It is reported that The Texas Company is setting five-inch casing in St. Martin Land 9, discovery well for Henderson salt dome, Section 21-8s-7e, St. Martin Parish at 8858 feet.

Two new interesting locations were announced by Stanolind Oil & Gas Company last week, one on the China prospect and the other at South Jennings gas and distillate field. Both wells are in Jefferson Davis Parish. Calcasieu National Bank 2-B, China prospect, is 990 feet north and 660 feet west of the SEc NW Section 28-7s-2w. Calcasieu National Bank 1 is in the South Jennings area, 1320 feet north and 1320 feet east of the southwest corner of Section 10-10s-3w.

Jennings field, Acadia Parish, was extended southwest last week by Glassel & Glassel's Trushel 1, Section 42-9s-2w. Around 100 feet of oil sand was found in this test from 6921 to 7021 feet. Seven-inch casing was cemented at 6930 feet.



B. L. Simmers, driller (left) and F. G. Broussard, helper, are taking things easy before bringing in Shell Petroleum Corporation's Sturdevant 1, discovery well for a new gas and distillate producing field, South Roanoke, Jefferson Davis Parish.

SOUTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CAMERON MEADOWS—		
Burton Sutton, School Land 16.....	¶1	4245
JEANERETTE—		
Herton Oil Co., Barrilleaux 2.....	550	6670
ROANOKE—		
Humble, C. N. Taylor 2, (wo).....	244	8885
VALENTINE—		
Pan American Prod. Co., Harange 2-A	624	5390
WEST HACKBERRY—		
W. T. Burton, Rosella Vincient 1...	283	4351
JEFFERSON DAVIS PARISH—		
Shell, Sturdevant 1, South Roanoke prospect, 25-10s-4w, dr to 9749 ft pb and perforated 8540 to 8550 ft..	¶2½	9749
WEST FELICIANA PARISH—		
Cavalier Oil Co., C. W. Mackie 1, e of Higator, 55-3s-2w.....	*	4529

*Failures; †Junked; ¶Million cu. ft. gas.

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Valley—Turnertown—Greggton—Houston

Rodessa southwest trend gets another black mark

* * *

Lisbon area gets busy after recent strike

* * *

Tensas Parish wildcat has shallow gas blow-out

Shreveport.—The southwest trend along the Rodessa Fault in Marion County, Texas, which had proved disappointing to a certain degree by the inconsistency of production of Holcomb, Thomasson and Associates' Lizzie Henderson 1 and Arkansas-Louisiana Gas Company's W. S. Ford 1 was given another black mark last week when Arkansas-Louisiana Gas Company's Laura McIntosh 1, William Edmonson Survey, mid-way between the field proper and W. S. Ford 1, swabbed dry with a small showing of oil at total depth of 6010 feet.

Operators continued swabbing Wednesday, April 7, and if this does no good seven-inch casing cemented at 5952 feet may be perforated to test what corresponds to the "Mitchell sand" in Rodessa proper, an upper part of the Gloyd, logged in this test at 5933 feet.

With present side-door chokes not furnishing sufficient gas, Holcomb, Thomasson and associates were planning to install additional chokes at Lizzie Henderson 1, R. Bennington Survey, 14-mile southwest outpost. Depth is 5996 feet, with the old depth at 6405 feet. Arkansas-Louisiana Gas Company's W. S. Ford 1 continued swabbing.

Dunn and Fisher's Susie A. Chatten 1, A. de Los Santos Coy Survey, completed a fortnight ago, is estimated good for an open flow capacity of 50 to 75 million feet of gas daily and a spray of distillate. Hunter Company has spudded E. W. Fonda 1 in the same survey.

Eleven Operations at Lisbon

Shreveport.—Eleven tests are either drilling or are ready to spud in the new Lisbon field, Claiborne Parish, Louisiana, where there are at present 4 producing wells from basal Glen Rose.

Gulf Oil Corporation is drilling 4 tests, and Magnolia Petroleum Company and Standard Oil Company of Louisiana are ready to announce new locations in the area.

Lacking only the approval of E. T. (Rebel) Oakes' associates in the drilling of the discovery well of the field, a sale of the discovery well, Patton Estate 2, NE NE 1-20n-5w, to Edward J. Condon of Houston, Texas, was under negotiation last week for the well and all of the northeast quarter of the section around it. Associates of Oakes are expected to approve it, as he has approved it.

Lyons & Neely, Shreveport independents, who have 7 40-acre tracts in and around Lisbon, made location for a test in the area across the line in Lincoln Parish, H. W. Patton 1, C N½ NW NW 6-20n-4w. L. O. McMillan, who is drilling one test in the field, made locations for three additional tests, McDonald 1, NW NW 31-21n-4w, Vaughan 1, NW NE 36-21n-5w, and H. E. Patton 1, SW NW 36-21n-5w. Love Petroleum Company is drilling two tests, both in Section 36-21n-5w.

Red Iron Drilling Company and Scout Oil Company, the latter of Oklahoma, who completed the fourth well in the field, H. E. Patton 1, Section 36-21n-5w, at 5312 feet, had to acidize the well which had dropped off considerably after flowing 210 barrels in 12 hours after it was thoroughly cleaned. It is now flowing estimated 25 barrels per hour through 21/64-inch tubing choke.

Lisbon-Schuler Trend Leasing

Shreveport.—The "hot spot" for leasing in North Louisiana and south Arkansas last week was the area between the Lisbon oil field inTownships 20 and 21 north, Range 5 west, Claiborne Parish, where there are seven drilling tests and as many more rigging up, and the new Permian lime discovery oil well at Schuler, Union County, Arkansas, successfully completed last week by Lion Oil Refining Company in Section 18-18-17.

In Columbia County Arkansas, around Section 13-17-20, where Magale and Elam drilled Garrett 1 to 4004 feet, Magnolia Petroleum Company is reported to have taken the acreage from these operators and is adding to its holdings. Phillips Petroleum Company has been active in leasing in Township 23 north, Range 6 west, in Claiborne Parish, Louisiana. Several other buyers have been busy in Township 23 north, Ranges 4 and 5 west.

West of Lisbon, T. L. James & Company have been buying in Section 34-21n-5w, and to the north Standard Oil Company of Louisiana has been active in Section 22-21n-5w, with T. L. James & Company leasing in Section 26-21n-5w, in which H. Miller and Texas Trading Company have also made some purchases.

More Claiborne Parish Leasing

Scout Oil Company acquired an interest in P. W. Woodruff and Red Iron Drilling Company's leases in SW NE 26-21n-5w, and in SE NE 36-21n-5w, on which latter tract Lisbon's fourth oil well was completed. Standard Oil Company of Louisiana also took several leases in Section 31-20n-6w and Section 36-20n-7w.

Ray Drilling Company bought three wells and equipment and leases in Section 10 and 30-9n-13w from Posey Sisters Oil Company in the shallow Converse field, Sabine Parish. Arkansas-Louisiana Gas Company is adding to its leases around Section 5-16-6w, Bienville Parish.

Southeast of the new field in Union County, Arkansas, and in the trend southeast paralleling a fault west of the Monroe Uplift, Standard Oil Company of Louisiana is adding to its block in Union Parish in Township 20 north, Rance 1 west.

The Texas Company has been taking some protective acreage in Township 9 north, Ranges 10, 11 and 12 west, Sabine Parish. In Webster Parish, E.R. Brann is actively leasing in Township 20 north, Range 10 west. Standard Oil Company of Louisiana is adding to its holdings on the north and south flanks of the Cotton Valley in the southern part of Township 21 north, Range 10 west. This company has made location for R. L. Stewart 1, SE SE 32-21n-10w. Ohio Oil Company made location in Cotton Valley for another deep test, L. M. Gardner 1, NE NE 22-21n-10w.

Sugar Creek Not So Sweet

Shreveport.—United Gas Public Service Company and associates' Warren Brown 1, SE NE 1-19n-6w, on the northwest flank of the Sugar Creek gas-distillate field, that gave indications of being an oil producer from the Travis Peak at 5745 feet, proved disappointing last week.

After being opened when storage was erected the well flowed 35 barrels of oil per hour for the first 2 hours through ½-inch tubing choke but made only 206 barrels in the first 24 hours. It then dropped to 89 barrels for the next 24 hours and the third 24 hours made only 22 barrels.

Tubing is being lifted 100 feet and the well will be swabbed. When first opened after use of acid it had made 136 barrels in 2½ hours when it was shut in for erection of tankage.

United Gas Company is preparing to deepen another 4300-foot gas distillate producer in Section 12-19n-6w.

Standard Oil Company is moving in materials for a proposed 9000-foot test, R. L. Stewart 1, Section 32-21n-10w,

west of deep production in the Cotton Valley field, Webster Parish. Odell Hinson made location for a proposed 5000-foot test in Long-Bell Lumber Company 1, Section 5-8n-13w, Sabine Parish, on the south flank of the shallow Converse field.

Two deep tests abandoned

Shreveport.—The first two tests to go below 9000 feet in North Louisiana were abandoned last week as failures, both being operations of Gulf Oil Corporation. R. R. Rhymes 15, NW SE NE 32-17n-6e, on the southeast flank of the shallow Richland Parish gas field, which Gulf Refining Company discovered in November, 1926, set all depth records for this territory when it was abandoned at 10,001 feet; elevation was 87 feet. This test logged the top of first anhydrite at 2936 feet, logged top of the Travis Peak at 4661 feet base of red beds at 6380 feet, and top of the Big Lime at 9680 feet. Seven-inch casing was cemented at 8040 feet.

Three miles southwest of the Shreveport city limits in Caddo Parish, the same company abandoned E. P. Hatcher 1, SE SE 11-17n-15w, at 9244 feet; elevation was 269 feet. It topped the chalk at 1465 feet, topped the red beds at 2589 feet, topped second anhydrite at 4635 feet, topped the Travis Peak at 5998 and topped the lower marine at 8240 feet. Seven-inch casing was cemented at 8307 feet in the lower Marine. The lower Marine carried sand strata, but so far as is known none of them showed any saturation.

Tensas Gas Blowout

Shreveport.—Efforts were being made last week to kill a heavy flow of gas that occurred in Howard M. Jones and associates' Chicago Mill & Lumber Company 1, NW SW NW 20-12n-10e, Tensas Parish wildcat, that blew out making a large quantity of sand with the gas at 787 feet in top of the Cockfield.

Jones set 8⅛-inch casing at 776 feet in this test several months ago after it showed gas in a drill-stem test at 779 feet at top of the Cockfield, but when given production test it showed only 1,000,000 feet. Recently he went back into the hole and had drilled only 8 feet when the blowout occurred that cut the connections.

Arkansas - Louisiana Gas Company has recently been drilling a series of core holes in this area, and one core-hole test reported a gas blowout.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Rodessa)—		
Standard, Armistead 2, 9-23n-16w...	109	6039
CLAIBORNE PARISH (Lisbon)—		
Lyons & Neely, H. E. Patton 1, 36-21n-5w	450	5292
CADDO PARISH (Pine Island)—		
Stanolind, Dillon Heirs 119, 14-21n-15w	65	1675
GRANT PARISH (Urania)—		
Grantland Prod. Corp., Swope-Labrot 1, 8-9n-1e	30	1609

*Failures; †Junked; ¶Million cu. ft. gas.

New field opened in Union County

* * *

Opinions differ on source of oil

El Dorado, Ark.—Lion Oil Refining Company apparently had opened a new field last week with successful completion of Morgan 1, Section 18-18-17, Union County, at 5559 feet in either basal Travis Peak or upper Permian.

The well was completed at this depth, after 7-inch casing was cemented at 5555 feet, flowing 60 barrels of oil per hour the first hour through ½-inch tubing choke. Later gas began to appear and the well was further choked down, and Wednesday was flowing 11 barrels per hour through 1/5-inch tubing choke, along with an estimated gas production of 3,500,000 cubic feet daily. The gravity of the oil, at first analyzed from a drill-stem test specimen at 40.3 is now said to be in excess of 49 gravity. Casing pressure on the ¼-inch choke is 1850 pounds and tubing 1750 pounds.

Lion Oil Refining Company has completed 14 miles of 6-inch line to the well from its El Dorado refinery and is running oil.

Opinions Differ on Source

Although some hold to the opinion that bottom of the hole is in the Travis Peak those adhering to the belief that it is in Permian point to the fact that dolemite appeared just above the sand horizon, indicating Permian.

Lion Oil Refining Company is moving in materials for a second well on the same 40-acre lease, which will be an east offset to the producer. Marine Oil Company and Phillips Petroleum Company also plan tests nearby.

The well is on a geophysical high discovered after geophysical work was done by Phillips Petroleum Company which drilled the present well to 4270 feet. That company's geophysical units also discovered the Permian lime field at Snow Hill, Ouachita County.

E. H. Moore of Oklahoma who bought Dale 7 and surrounding lease from C. V. Lenz who completed this well at 4416 feet is rigging up for 2 offset locations on the same lease, Dale 1 and 2, one 660 feet west and the other 660 feet north of the producer.

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CLARK COUNTY—		
John G. Wooten, Sparkman 1, 1-11-20	*	563
NEVADA COUNTY (Troy)—		
Benedum & Trees, L. Block 1, 9-14-20	*	5394
Grove 8, 10-14-20	118	2156

*Failures; †Junked; ¶Million cu. ft. gas.

El Dorado. — Five drilling permits were authorized last week by the Arkansas board of conservation, all being issued to one company for tests in one section of Miller County, just north of the Rodessa field. The permits were issued to Layton Oil Company, Incorporated, and associates of Texarkana, Arkansas, as follows: E. S. Terry Estate 1 to 5, inclusive, all located 50 feet north of the south line of SWc Fractional Section 14-20-28, and located respectively at the following distances east of the west line of same: 1168 feet, 918 feet; 668 feet; 418 feet, and 168 feet.

More geophysical work in South Mississippi

* * *

First of three tests started in Tennessee

Jackson. — More geophysical parties are coming into south Mississippi "in the trend." Hoard Exploration Company of Houston, Texas, has just sent a seismograph crew to the northern part of Wilkinson County, in the southwest part of the state, to do reflection work. Continental Oil Company has a gravimeter unit working in southern Lincoln County and in Pike County. California Company's seismograph unit continues to work in Lincoln County, west of Brookhaven.

Cleve Love, who drilled the discovery well in the Jackson gas field, has recently assembled a 15,000-acre block in southeast Mississippi in Township 1 north, Ranges 7 and 8 west, in Greene and George Counties, both of which border the Alabama line.

The Mississippi State Mineral Lease Commission has deferred action so far on offers to allow the shooting of an area in the Mississippi Sound, off the coast of Hancock, Harrison and Jackson Counties.

Start Tennessee Test

Memphis, Tenn.—Tennessee - Arkansas Company has made location 3½ miles northwest of Covington, Tipton County, southwest Tennessee, for the first of 3 contemplated 2000-foot tests on a block of approximately 21,000 acres. Core Drilling Company of Houston is reported to have contract for the tests.

SOUTHEASTERN STATES

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MISSISSIPPI		
LAMAR COUNTY—		
Sun et al, Talley 1, 28-4n-15w.....	*	2015

*Failures; †Junked; ¶Million cu. ft. gas.

Lea County completions and new operations taper off

* * *

Monument operators succeed in avoiding failures

* * *

Well at north end of Eunice to be treated again

Hobbs.—Volume of completions and new operations in Lea County tapered off the past week after maintaining high levels for more than a month. The county was responsible for 10 completions, including a gasser, and 7 locations. Monument field, leader for months, contributed 6 flowing wells, and 4 new operations. Nearly all normal locations within the productive limits of the Monument field will be drilled up this month. Future activity will center upon the south end to complete the task of linking the area with the Eunice field, and also cautious drilling around the edges of the producing area. Production in the two fields are separated by a mile of undrilled acreage, and this gap will be entirely closed within a few months.

Monument operators have had remarkable success in avoiding dry holes. Two failures drilled by Repollo Oil Company and one by Gulf Oil Corporation, all on the east flank of the structure, leaves the remainder of the field open for extensions, especially north, south and west. Light wells on the northwest rim tend to discourage outposts in this direction. On April 1 the field was credited with 336 wells situated on 334 40-acre units, and two on 20-acre units, or an aggregate of 13,400 productive acres. A few operators have insisted upon spacing their wells on a 10-acre basis, and offset lease owners do likewise, but in every instance each well is supported by 40 acres. The two fraction units will be offset to the east on the same basis.

Mud Off Big Gas Flow

Repollo Oil Company's Barber 7, NE SW NW 8-20s-37e, inside location at Monument reported last week as gauging 156,000,000 feet of dry gas after blowout at 2616 feet, succeeded in mudding off the flow, and used cement squeeze job on the gas formation. It was drilling out cement at 2410 feet, according to late reports. This concern's Roach 3, NW SW NW 21-20s-37e, southern most location, swabbed dry at 3845 feet, with an elevation of 3526 feet, and when deepened 10 feet flowed by heads after using 2000 gallons of acid. It will be retreated. The Texas Company's State-Lieu 7, C NE NW 20-20s-37e, and Gulf Oil Corporation's State-Bell 1-G, C SE SE 13-20s-36e, are new tests for the south end. Ohio Oil Company's Laughlin 3, C SW NE 9-20s-37e, has rigged up, and operations have been started on Continental Oil Company et al's Britt 4-B, C NE SE 18-20s-37e. Gulf Oil Corporation's Hatchett 2, C SW NW 33-19s-37e, near townsite, failed to flow when drilled to 3905 feet, or 334 feet sub-sea, and has been shot with 350 quarts of nitro at 3812-3905 feet. The well then swabbed 8 barrels hourly.

Amerada Petroleum Corporation's State 4-W, C SW NW 30-20s-37e, north end of the Eunice field, flowed 115 barrels in 11½ hours after second acid treatment at 3820 feet, and is to be treated again with 2000 gallons. Continental Oil Company et al's Lockhart 6-B, C SW SW 14-21s-36e, an inside location, gauged 25 barrels hourly natural on ¾-inch choke at 3867 feet. The Texas Company's Rector 4, C SW SE 30-21s-36e, southwest outpost, is a new operation. Humble Oil & Refining Company has started operation on State 1-G, C NW NW 23-21s-36e, having lease on the entire section. Gulf Oil Corporation's State - Arnott - Ramsey 13-C, C SE NW 21-21s-36e, is a new operation.

Well Allowables Unchanged

Production allowable of individual wells throughout the state remained virtually unchanged on the new proration schedule issued by the Oil Conservation Commission for the April 1-16 period, although the output was boosted 3200 barrels to a new peak level of 106,400 barrels daily. The increase was absorbed by the heavy quota of new wells added by fields in Lea and Eddy counties during the previous period. Larger allowable for the Artesia-Maljamar district, currently prorated to 3315 barrels daily, is likely to be granted within the next month as result of the forthcoming completion of a 5½-inch pipe line that will link the area to a trunk line connection in Lea County. Heretofore, the allowable has been largely determined by the ability of local refineries to absorb the production. It is expected that the commission will make some provision for the enlarged market outlet, and by doing so may impose slightly greater restrictions on Lea County's production, which averages about 91 barrels per well daily.

Will Need Treating

Nitro shot or acid is scheduled to be used by The Texas Company and Ajax Drilling Company's J. P. Alexander 1, C Lot 14, 5-21s-37e, outpost oil producer in the north portion of the sandy-lime belt in Lea County. This well has been in process of completion for several weeks, and last mid-week was flowing 40 barrels daily through tubing from broken pay at 3705-3755 feet, with an elevation of 3490 feet.

Magnolia Petroleum Company's State 1-G, NW NW NE 24-17s-34e, second test for the Vacuum area, Lea County's deepest oil pool, was plugged back again to 4793 feet to cut off water, and swabbed and flowed 97 barrels oil in 21 hours after using 2000 gallons of acid. It will be treated with acid again. This test drilled into sulphur water late in February at 4896-4905 feet, with an elevation of 4019 feet. Magnolia Petroleum Company's Hanna 1, wildcat in the southeast corner of Lea County, was spudded early last week.

Jim W. Brown, Reynolds et al's Parcell-Conoco 1, eastern Lea County wildcat that has been showing for a small oil producer since February 10, failed to exclude water in plugging back with cement from 4401 feet to 4397 feet, and is testing after driving 6-inch wooden plug.

In the South Jal lime area, The Texas Company et al's C. W. Shepherd 3-B, SW NE NE 5-26s-37e, failed to get water shut-off in plugging back from 3290 feet, and has been completed at 3082 feet with an initial flow of 3,900,000 feet of gas through perforated casing. Owners have announced that rig will be moved to drill Shepherd 4-B, located on the same federal permit. Continental Oil Company et al's McCallister 4-A-24, C N½ NE SE 24-26s-36e, offsetting oil production, showed 75 percent sulphur water at 3245 feet, and has plugged back to 3224 feet, with an elevation of 2942 feet, to acidize for oil in the dolomite.

NEW MEXICO

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LEA COUNTY (Eunice Field)—		
Continental et al, Lockhart 6-B-14, c sw sw 14-21s-36e	1200	3867
LEA COUNTY (Penrose-South Eunice Field)—		
J. E. Farrell et al, Walden 1-C, c sw sw 15-22s-37e	60	3686
LEA COUNTY (South Jal Field)—		
Texas Co .et al, C. W. Shepherd 3-B, sw ne ne 5-26s-37e	¶3.9	3290
LEA COUNTY (East Jal Field)—		
A. R. Eppenauer et al, F. B. Stuart-Amerada 1, ne nw ne 22-25s-37e	525	3410
LEA COUNTY (Monument Field)—		
Amerada, W. P. Byrd 5, c se nw 12-20s-36e	4000	3875
Gulf, Whitmire 3, c se nw 8-20s-37e	300	3880
Humble, State 2-F, c se sw 17-20s-37e	750	3860
Ohio, Laughlin 2, c se nw 9-20s-37e	4500	3870
McGrail 2, c ne sw 26-19s-36e	2000	4005
Phillips, Mexico-Britt 1, ne ne ne 18-20s-37e	3000	3852

*Failures; †Junked; ¶Million cu. ft. gas.

Tankers

[*Continued from page 54*]

have four cylinders with a 600 mm. bore by a 2320 mm. combined stroke. The nine other ships each will be fitted with a four-cycle, single-acting, crosshead type engine, arranged with airless injection and under piston type pressure induction. Each engine will have six cylinders with a 740 mm. diameter by a 1500 mm. stroke.

Under service conditions, it is estimated that the machinery will develop 2850 brake horsepower at about 98 revolutions per minute in the first type and at about 105 revolutions in the latter type engines, but on trials the power will be approximately 15 percent above this, say 3300 brake horsepower. This power can be obtained without overloading the engines.

The speed under all weather conditions should average 11½ knots in loaded condition, and with the same service power a full 12½ knots should be obtained in ballast condition. In this design, no summer tanks are fitted. There are two longitudinal bulkheads throughout, the wing tanks having about half the capacity of the center tanks. There are two cargo pump rooms, in each of which two cargo pumps are installed. Each pump has a capacity of 230 tons of oil per hour against a discharge pressure of 100 pounds per square inch.

One of the newer tankers, the Comanchee, recently launched for Anglo-American Oil Company, is important because she is a specially built carrier for a large number of different grades of lubricating oils. This tanker has 27 separate cargo tanks and is so built that a water ballast is unnecessary when the vessel is traveling light. In order to eliminate the necessity of water ballast, a deep double-bottom was built into the ship. This feature results in a loss of cargo capacity and requires the use of an added 700 tons of steel in the construction, but it also eliminates the possibility of contamination of the various grades of lubricating oils.

The Comanchee has a cargo capacity of 2,500,000 Imperial gallons. The single screw is driven by a four-cylinder Diesel. Besides the usual navigational equipment, the Comanchee carries a gyro compass, a gyro pilot for automatic steering and a radio direction finder. This tanker has a deadweight of 10,200 tons and a speed of 13 knots.

Japan Leads in Speed

Japan continues to lead the tanker fleets of the world in speed. During the current year, Japan is building four more high speed tankers which are similar in design to the fast oil carriers built in 1935.

One of Japan's fast tankers, the Tatekawa Maru, built in 1935, attained a speed of 20.5 knots on its trial run to establish a record. In the same year, two other fast tankers were constructed at the Kawasaki yards. These vessels, the Kyokuto Maru and the Toa Maru, as well as the other fast oil carriers, are not operated at top speeds in commercial service according to Japanese shipping officials. However, with these fast motor tankers, it is possible to make 10 complete round trips between Pacific and Japanese ports in the space of a year. The old style steam tanker could make about five such complete trips and if the conditions were excellent, perhaps six trips.

No detailed figures are available on these ships, but it has been inferred by Japanese officials that the cost of one of these new motor tankers compares favorably with the cost of two of the slower steam tankers. And this estimate includes the interest on the added investment for the motor ships.

The principal characteristics of the Japanese standard type tanker are:

Length between perpendiculars	500 feet
Width	65 feet
Depth	37 feet
Draught loaded	26-29 feet
Deadweight	13,500 tons
Net	10,000 tons
Speed	18 knots
Engines—Diesel 8-cylinder	8,000 h.p.
Cargo capacity	12,000 tons

In conclusion, it may be stated that tanker construction can be expected to continue at the present rate, if not faster, for the next few years. The present construction programs of the various oil companies are barely enough to meet the normal replacement requirements and any additional demand, either in the foreign or domestic markets, will require additional tonnage for handling.

At present, the trend is toward motor tankers and oil carriers for special purposes. Lloyd's Register of Shipping for the June quarter lists 69 motor tankers building with a total of 567,206 tons and 10 steam tankers with a total of 89,420 tons. In the construction of motor tankers Great Britain leads with 22 such ships building. Germany is second with 15 and Holland third with eight.

None of the maritime countries show any inclination to follow the example set by Japan in building fast tankers, however desirable such vessels would be from the standpoint of the navy.

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CYLINDRICAL ROLLER ROLLWAY BEARINGS

ROCKY MOUNTAIN FIELDS

Lance Creek well makes 100 barrels hour on test

* * *

Carbon County discovery well is being deepened

* * *

Montana work delayed by spring weather conditions

Casper, Wyo.—Ohio Oil Company's Leo 5 OPC-16, NW NW SW 35-36n-65w, which was started as an extension test of the east limits of the Sundance pool in Lance Creek field, Niobrara County, eastern Wyoming, has developed into a mystery well with all information withheld by the company since well passed the 4,407 foot level. At this depth well was drilling in red beds, no log of the Sundance sand was given.

This is the second well in this field drilled as a secret test of underlying levels. Last year the same company carried Converse Sheep Company 5, CSE SW 32-36n-65w, to a formation believed to have been the Minnelusa. Actual depth was never reported, and well eventually plugged back to the Sundance at 3762 feet, where it was completed for an initial production rating of 840 barrels daily.

Makes 100 Barrels Per Hour

Although an official test has not been made, Continental Oil Company's Schuricht 3-B, CSE SE 6-35n-65w, Lance Creek, is rated at around 100 barrels per hour, based on a short test. Additional tankage is being erected and the official test will be run next week.

J. M. Huber Corporation's proposed test east of Lance Creek, Midwest 1, SE SW 27-36n-65w, an old gas well which formerly produced from the upper Sundance, is cleaning out preparatory to being carried to the Basal Sundance.

On the southwest edge of the field, Mackinnie Oil & Drilling Company is rigging up rotary for Thompson 2, NW NE 7-35n-65w. Well is a south offset to the recently completed Cobb & Holly Nat Novick 1 and is an outside location.

Ohio Oil Company's Carrie Putnam 6, NW NW 4-35n-65w, an old producer in Lance Creek which is being drilled further into Basal Sundance in an effort to boost production, is coring ahead below 4055 feet.

Two Drilling on Quealy Dome

Activity on Quealy Dome field, Albany County, southern Wyoming, showed two wells in the field making satisfactory progress. The field is operated solely by The California Company. Wilson 3, SW NW SW 18-17n-76w, has reached 2,816 feet in a shale formation. Holst-Woolf 1, CNW NW NW 19-17n-76w, is reported at 2,075 feet in grey shale.

A joint well of Ohio Oil Company and The California Company, Wm. Kyle 1, CSE SE 26-21n-79w, is drilling at a depth of 4,329 feet. The companies' other joint well in the field, Union Pacific-Cronberg 4, CSW SW 25-12n-79w, is drilling at 3535 feet.

Deepening Discovery Well

One active well is reported in East Allen Lake, Carbon County, southern Wyoming. The well, discovery well for the field which, was opened in December, 1936, for gas production, is being deepened as a test of the gas potentialities of the field. Medicine Bow Oil Company's Hintze-Government 1, CNE SE 18-22n-78w, topped Sundance sand at 1,903 feet with gas shows at 2,044 feet. The hole is being drilled ahead at 2,130 feet, still in the Sundance, with no test to date.

An east offset to Medicine Bow Oil Company's well in Allen Lake gas field, Ohio Oil Company's Union Pacific-Wister 1, CSW SW 17-22n-78w, is still a location.

Ohio Oil Company is preparing to deepen another well in Rock River field, Carbon County. Diamond Cattle Company 6, NW NW 35-20n-78w, when originally completed in May, 1921, was the largest producer in the field, originally yielding 2,040 barrels of oil in 17 hours from the Dakota formation.

Mountain Fuel Supply Company's J. C. Donnell 1, NE SE 31-12n-97w, Powder Wash field, Moffat County, northwestern Colorado, is drilling at 2,787 feet.

MOUNTAIN STATES Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
Glacier Production Co., Seeba 5, nw nw 2-34n-6w	186	2933
Abraham 1, csw se 19-34n-5w	55	2776
R. C. Tarrant, Kirst 1, cnw sw 18-34n-5w	¶2	2767
WYOMING		
BIG HORN COUNTY (Garland Field)—		
Stock Oil Co., Allen 1-B, se nw 25-55n-97w	1500	4176
CARBON COUNTY (Rock River Field)—		
Ohio, Harrisson-Cooper 7, cnw 2-19n-78w	*	5671
Harrisson-Cooper 1, se sw 35-20n-78w	25	3325
NIOBRARA COUNTY (Lance Creek Field)—		
Ohio, Lamb 9, cse ne 5-35n-65w, (Deepened from 4072 ft and recompleted)	700	4097
COLORADO		
KIOWA COUNTY—		
Gulf, Risser-Union Pacific 1, csw ne 1-17s-50w	*	6175

*Failures; †Junked; ¶Million cu. ft. gas.

Northern Wyoming Quiet

Northern Wyoming areas showed only two active wells this week, both of which were located in the Byron field, Big Horn County. Ohio Oil Company's State 1, NEc 35-55n-97w, is still testing production after acidizing in Embar formation at 5,332-5,410 feet. The hole has been deepened to 5,437 feet, Tensleep. This company's Baker-Byron 2, SE NW 23-56n-97w, is drilling in the red beds at 4,768 feet. Top of the formation was logged at 4,585 feet.

Montana drilling activity showed the effects of the frequent spring snow storms which have made unsurfaced roads in the Rocky Mountain region almost impassable. Two wells were completed during the week. A small producer was brought in at Cut Bank field. The well is Kately & Drumheller's Ward 5, which had 125 feet of fluid in the hole from 2,933 feet. It will probably be shot to increase production. Location is Lot 4 10-34n-6w.

Third Well For Mosser Dome

In shallow Mosser Dome, Yellowstone County, the third producing well was completed during the week. R. C. Tarrant's Kelly 1, SE SE NW 26-35n-23e, is rated at about 125 barrels daily. It is a south offset to Tarrant's Sayre 2, completed last fall. Operators plan to drill another well in the field during the summer. The four producers will then be pumped as a unit and the crude shipped to the Yale Refinery at Billings. Mosser Dome is a small structure southwest of Billings and is completely owned and operated by R. C. Tarrant. It is classed as the shallowest true sand field in Montana.

Washington, D. C.—Award of a one-year contract beginning April 1 for the sale of government royalty oil from the Lance Creek, Wyoming, field on a privately negotiated agreement was announced by Secretary of the Interior Harold L. Ickes April 6.

The contract was awarded to Terry Carpenter, Scottts Bluff, Nebraska, who was the only bidder to submit proposals for an opening February 15. The bid was rejected because it was not in proper form and a private sale was negotiated at a higher price than that offered in the bid.

The award provides for the government an estimated average premium of about 15½ cents per barrel above the present posted price for oil in the Lance Creek field, it was said.

CALIFORNIA FIELDS

Marked increase in drilling activity

* * *

Four wells in state below 10,000 feet

* * *

El Segundo promises to be spotted production

Los Angeles.—There has been a marked increase in drilling activity in California during the first three months of 1937. Notices of new wells to be drilled totaled 390 compared to 244 for the same period last year. New wells starting are scattered all over the state, although in the past 60 days many new wells have been started at Wilmington in Los Angeles County, but the increase would have been material, even if Wilmington had not been discovered.

During the week ending April 3, 35 notices of new wells were filed, and of this number, 20 are in Southern California, nine being at Wilmington. Only four new wildcats were started.

In the face of this increased field activity, it is now indicated that daily average production of crude oil in April will run better than 600,000 barrels. The official allowable was raised from 551,000 barrels a day to 580,000 barrels for April, with a further allowance of about 21,000 barrels a day for new wells. The daily average production the first five days of April was 614,941 barrels, compared to 593,521 barrels a day for the similar period in March, which almost equaled the first five days of February.

Small premiums are being paid for spot crude in several Los Angeles Basin light oil fields. There is a real demand for all crude of all types. None is going begging. Fuel oil and gasoline consumption is on the upgrade. Stocks are causing no worry. The most important companies in California are seeking new fields and new producing zones in older fields.

Four Tests Below 10,000

There are four active wells in the state below 10,000 feet but none of them are showing unusual promises of uncovering new prolific zones. Union Oil Company's Bell 100 at Santa Fe Springs, with bottom at 10,789 feet, has a stuck drill pipe at 9570 feet. Last casing cemented was 8⅝-inch pipe landed at 7427 feet. Oil is being circulated in an effort to loosen the drill pipe. But this well has not offered very much encouragement. Some oil sand was cored, but it is doubted if such sands would produce. It has been intended to drill to about 12,000 feet, and if no real producing zone was picked up, to plug and test by stages.

There are three other holes in the state drilling below 10,000 feet. None of them so far have given any real promise. And of all the wildcats drilling in the state, none of them look very good.

The new Greeley field discovered by Standard Oil Company in Kern County is not panning out. It begins to look like it will be very small in area. The Ten Section field looks a little better, but it certainly is not looked upon as a second Kettleman Hills. In this field, Shell Oil Company, discoverer of the field, holds most of the best looking acreage.

Barnsdall Oil Company has a new field of some kind near Newhall in Los Angeles County, and Barnsdall holds under lease most of the best looking acreage. Barnsdall's discovery well is now flowing 345 barrels of 36 gravity oil, cutting 4 percent, with bottom of hole at 6472 feet. The pressures are not very encouraging. It is understood that Barnsdall will permit the well to flow for some time in its present condition. It might be deepened, or it may be decided to drill another hole. But as far as is known, no location has been made.

The new field at El Segundo in Los Angeles Basin is being watched very closely. Action of the present drilling wells indicate the field will be very spotted and erratic. The Texas Company completed one well making close to 5000 barrels a day, and another well not very far away almost refused to flow, at approximately the same depth. Texas Company's Johnson 2-1, plugged depth 7715 feet, in this field, on a swabbing test was good for about 200 barrels, with little kick. Then the well was shut in about 24 hours, and when the swab was run just once, it started to flow at 1000 barrel rate, 27 gravity clean oil. The flow was of short duration and it is thought the well must go on the pump. Only six wells are actually drilling in the field and five other holes are to start very soon.

Union Pacific Railway Company is very much in the oil business at Wilmington with two wells on production and 21 other projects ranging from locations to drilling wells. Each and every well will be an offset. And it is very likely Union Pacific's drilling campaign, due to offset situation, will be one of the largest and fastest seen in California for some years. Union Pacific's Offset 1 was completed April 1 for 2000 barrels of 20.3 gravity clean oil, with bottom at 3550 feet. The well is making 270,000 cubic feet of gas. In this hole 8⅝-inch casing was cemented at 3545 feet, the last 500 feet being perforated. Same company's No. 2 was completed April 5 for 568 barrels, total depth, 3576 feet, with 406 feet of perforated on bottom. Sand is causing trouble and it is expected it will have to be cleaned out to bottom and recompleted.

In the Wilmington field, A. T. Jergins Trust is planning to drill at least eight wells, locations having been announced last week. General Petroleum Corporation has six strings of tools going, and is preparing to start eight more holes. At least ten wells must be drilled on the Ford Motor Company property, leased by General Petroleum. Total of 125 individuals and companies are now operating in the field. There are now five producers in the new field and 80 other projects ranging from locations to drilling wells.

In the San Miguelito field, Ventura County, Continental Oil Company's Grubb 6, Section 23-3-24, total depth 6800 feet, with 7-inch pipe cemented at 5523 feet, was completed April 2 for 1789 barrels of 30.2 gravity oil, cutting 11 percent. It has been beaned back to ¾-inch choke and is now making 925 barrels of 34.7 gravity clean oil. The casing pressure is 1750 pounds and the pressure on the tubing is 1250 pounds.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
EL SEGUNDO—		
Republic Pet. Co. No. 4	375	7429
REDONDO—		
P. W. Willett, No. 1	150	3590
WILMINGTON—		
Royalty Service Corp., No. 2	150	3050
No. 8-42, 1	500	3590
KETTLEMAN HILLS—		
Kettleman No. Dome, No. 36-28J	2800	8095
FRUITVALE—		
I. J. Banducci, Ticehurst 2	100	3392
Seahawk Pet. Co., No. 1-C	320	3214
LOST HILLS—		
Tide Water Associated, Williamson 12-A3	360	1779
Standard, United 1	*	6314
KERN FRONT—		
Calif. Star, Oil Co. No. 9-40	165	2699
M. H. Whittier Co., Cauley 4	150	2815
MIDWAY SUNSET—		
Birch Ranch Oil Co., Goldman 2	100	2160
Standard, No. 79-33A	435	3005
Texas Co., Midway 19	520	2890
Tide Water Associated, No. 31	40	1329
Union, Williams 5	675	2050
MOUNTAIN VIEW—		
Ohio Oil Co., No. B-1	1000	5910
PREMIER—		
Pebble Beach Oil Co. No. 4	300	2659
ROUND MOUNTAIN—		
Honolulu Oil Corp., No. 65	230	1840
RIO VISTA—		
Amerada Pet. Corp., Mayhood 1	¶26	4533
SANTA MARIA—		
Union, Squires 17	210	3817
VENTURA AVENUE—		
Shell, Taylor 89	2900	8092
KERN COUNTY—		
Union, San Emidio C-1	*	4805

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN FIELDS

Pennsylvania's deep wildcat has fishing job

* * *

West Virginia drilling shows big increase

* * *

Ohio to have busy period during this summer

Pittsburgh.—Fishing for a lost bit was in progress on the deep test of William Snee and others on the Summit Hotel lease on Chestnut Ridge, South Union Township, Fayette County, Pennsylvania, as this wildcat continued to hold the interest of eastern operators. The bit was lost at 6665½ feet.

Top of the lime was found at 6575 feet and the drill is still in the lime, but with less chert. First gauging 35,000 feet when struck at 6608 feet, the gas has increased with depth to 700,000 feet a day. Added depth is awaited to determine whether the gas is from a reservoir in the lime or whether, with a good cap seal on this formation, the lower part of the formation has fractured into the Oriskany sand.

Fulton County Set-Back

Believed to be the site of a new field a few months ago when two tests of N. L. Stevens resulted in fair producers, future development in Fulton County, northwestern Ohio, suffered a decided set-back last week when the second test of this operator on the Enos Roth farm, Section 13, German Township, was abandoned as a failure. Located a short distance from one of the earlier wells, it was drilled through the Trenton sand at 2155-2205 feet, where it made a small show of both oil and gas before being abandoned. While other operators are dropping plans for further development in this area, N. L. Stevens has contracted to drill one more test to the Trenton sand in this county.

Another major disappointment was the deep test of Laughner Oil & Gas Company and American Natural Gas Company on the William Wilsman farm, Independence Township, Beaver County, southwest Pennsylvania. Drilled eight feet into the Oriskany sand, it found salt water which rose 300 feet in the hole and the bailer failed to reduce it. The well was completed after severe difficulties with gas blowouts in the shales above the lime, which was topped at 5137 feet. Top of the Oriskany was at 5,311 feet.

Two Washington County Wells

Two producers, two gas wells and a failure marked other southwest Pennsylvania operations. Two deepening operations in Amwell Township, Washington County, resulted in 10-barrel producers: Manufacturers Light & Heat Company deepened A. O. Vankirk 5 to 2813 feet, finding the top of the Fifty-Foot sand at 2,808 feet, while Carnegie Natural Gas Company deepened Menzer 1 to 3002 feet, the Ffth sand, which was topped at 2983 feet with production at 2991-2992 feet. In this same township, Union Gas and Oil Corporation completed a test on the C. H. Miles farm at 2856 feet. The Thirty Foot sand was at 2810 feet with about one million feet of gas at 2836-2852 feet. B. L. Frye deepened the Milton Martin 1, Aleppo Township, Greene County, to 3445 feet, where it gauged 260,000 feet a day after a shot from 3230-3234. In Morris Township, Greene County, Dunn Mar Oil & Gas Company deepened J. G. Loughman 2 to 3254 feet through the Fifth sand and it was a dry hole.

The deep test of American Natural Gas Company and T. W. Phillips Gas & Oil Company on the Perry S. Davis farm, Franklin Township, Butler County, topped lime at 5420 feet and is drilling 60 feet in that formation. The deep test of Norwood Johnston and others on the James McBurney farm, Mount Pleasant Township, Washington County, is fishing after the 6100 feet of lime went in the hole due to a severe gas blowout. Two deep tests are drilling in South Beaver Township, Beaver County—A. J. Wise, Jr., et al on the Beaver Falls Airport Corporation lease and the John T. Galey et al on the Minnie Weigle Heirs farm. Neither are at an important stage.

Best In West Virginia

Star West Virginia producer of the week was that of Glen F. McBurney and others on the M. B. Nutter farm, Clay district, Ritchie County, West Virginia. Drilled 8 feet in the Maxton sand to 1612 feet, it produced 36 barrels the first day. No. 1 on this lease was a two-barrel pumper.

Owens Illinois Glass Company completed G. T. Hill 3, Washington district, Boone County, West Virginia, at a depth of 2405 feet. The Big Lime was at 1621-1843 feet; gas at 1710-1712 feet; Big Injun at 1843-1913 feet; Berea at 2349-2373 feet, with gas at 2349 feet. Gauge was 68,000 feet a day, which was increased by an acid shot to 2,000,000 feet a day.

Only one completion was reported in the Oriskany field of West Virginia. In Malden district, Kanawha County, United Fuel Gas Company completed George Creek Land and Mining Company 4679 at 4998 feet for 2,986,000 feet a day. In Elk district, the Columbian Carbon Company is drilling in a test on the Ida Hughart farm and at a depth of 5041 feet there is a volume of 1,000,000 feet a day. The West Virginia Gas Corporation topped the Corniferous lime at 4726 feet in its test on the E. E. Walker farm.

Preston Oil Company's Sunday Creek Coal Company 145 was the largest Ohio producer completed during the week, making 50 barrels the first 24 hours after a shot of 90 quarts. Located in Section 22, Ward Township, Hocking County, it was completed four feet below the Clinton sand at 3380-3409 feet. The company is rigging up for No. 148 on this property. No. 147 is rigged up and No. 146 is nearing completion.

Ohio To Be Busy

Increased activity in the Central Ohio field during the summer months is promised with many new location staked and operators starting to drill on locations made last fall. Most of the locations are in more or less proven territory. However, when drilling has been started on these sites it is expected that operations will extend into new areas. It is also believed that some of the older fields will be redrilled.

While no completions were reported in the Illinois field, operations are steadily increasing in that section. Howard Forrester's test in SW NW 5-6s-1w, Duquoin Township, Perry County, is drilling below 4720 feet. In Crawford County, SE NW SW 25-8n-13w, Prairie Township, Salvage Oil & Gas Company's W. S. McGrillis 3 is temporarily shut down at 1390 feet. Joseph Hasset is rigged up for J. A. Turner 31, NE SW SE 33-11n-14w, Parker Township, Cark County. In SW 17-11n-14w, same township, Morris Yeager's test on the True Booth property has been shut down at 470 feet. Goodwin, Cooley & Company are spudding in a test on the Lewis Valbert property, Section 6-5n-14w, Sainte Marie Township, Jasper County. In Washington County, SW SE NW 22-1s-4w, Okawville Township, Patton & Company are rigged up for a test on the Morgan and Baldwin property.

May Drill To Medina

The test of Kaufman and others on the Bank Angelica property, Allen township, Allegany County, New York, found a show of Oriskany sand at 3376 feet and may go to the Medina. It is the deepest test in the New York side of the New York-Pennsylvania deep sand gas field. The Kaufman well, temporarily shut down at 3384 feet, topped the Tully at 2742 and the Onondaga at 3260 feet. The elevation is 2006 feet. Empire Gas & Fuel Company is down to 3520 feet on the K. Mulvey farm test, Alma township.

G. L. Cabot, Incorporated, has the deepest test drilling in Steuben County, located on the T. H. Wing farm, Greenwood Township. It is drilling at

2455 feet. The Sylvania Corporation is at 1810 feet on the William Hendrickson farm, Troupsburg Township; and Atwater and others are drilling at 1510 feet on the Herrington farm, Woodhull Township. In Cattaraugus County, Cunningham Natural Gas Company is drilling at 2320 feet on the H. Hotchkiss farm, Randolph Township; while Belmont Quadrangle Drilling Company has a rig up for a test on the A. G. Hoffler farm, Leon Township.

In Potter County, on the Pennsylvania side of this field, Potter Development Company is drilling at 5160 feet on the Crawford estate property, Keating Township, and is running pipe at 5096 feet on the L. C. English farm, Harrison Township. This operator is moving in on the May C. Haupt farm, West Branch Township. Other operations in this county are: Ward Wasson, shut down at 5310 feet on the W. B. Hall farm, Genesee Township, and G. L. Cabot, Incorporated, drilling at 4765 feet on the R. E. Courtwright farm, Harrison Township.

McKenry and others are shut down at 2950 feet on the Stellman farm wildcat, Rockland Township, Venango County. Other Pennsylvania operations in this field are: G. L. Cabot, Incorporated, drilling at 975 feet on the Union Joint Stock Land Bank property, Brookfield Township; Potter Development Company, drilling at 2540 feet on the H. C. Kemp farm, Farmington Township, and at 3690 feet on the C. G. Dearman farm, Middlebury Township, all Tioga County. Potter Development Company is drilling at 3565 feet on the J. Chapin farm, Rockdale Township, and is building rig for a test on the N. D. Dahl farm Hayfield Township, both in Crawford County.

West Virginia Increase

Charleston.—West Virginia oil and gas drilling spurted during March, with a total of 73 drilling permits issued as compared to 55 in February, according to the oil and gas division of the department of mines.

Kanawha County led the state with 16. The breakdown for other counties follows: Calhoun, seven; Cabell, five; Clay, Gilmer, Lewis and Roane, four each; Boone, Wayne and Wirt, three each; Wetzel and Nicholas, two each, and Braxton, Doddridge, Hampshire, Harrison, Jackson, Lewis, Marshall, Monongalia, Taylor and Tyler, one each.

Enlarge Line

Philadelphia.—Keystone Pipe Line Company, transportation subsidiary of Atlantic Refining Company, is enlarging the capacity of its Pennsylvania gasoline pipe line system by construction of about 60 miles of 12-inch welded line parallel to an 8-inch carrier that extends northwest from Point Breeze to Montello. Ford, Bacon & Davis, Inc., received contract to lay the auxiliary line, and welding work began last week. Keystone Pipe Line Company's original system, completed late in 1931, from Point Breeze via Montello to Fullerton and Kingston, involving one unit, and to Mechanicsburg on the west, has since been enlarged and extended to Pittsburgh and to Williamsport.

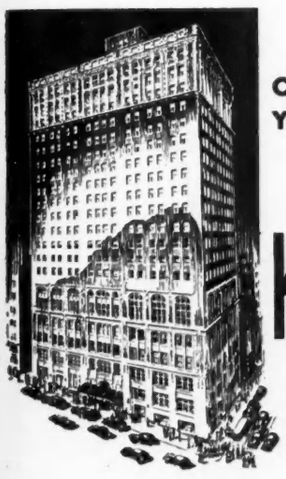
Demands Permit

Pittsburgh.—Mandamus proceedings to compell Burgess Carl C. Dittmar, of Ingram, to issue a permit for drilling a well for gas or oil on the property of Thomas McDermott has been filed in common pleas court here. Mr. McDermott declares that the borough code permits drilling, but that Burgess Dittmar refused the permit.

Judge Elder W. Marshall directed that an alternative be granted or that the burgess be required to give his reason for refusing to issue the permit, returnable April 16.

Will Clean Out 145 Wells

Williamsport, Pa.—The Wyoga Oil & Gas Company last week acquired the operating interests in the 269-acre tract across Oil Creek from Rouseville, known as the Rynd farm, on a royalty basis. The company is embarking immediately on a program of cleaning out the 145 wells on the property and will



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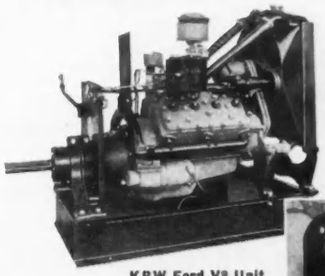

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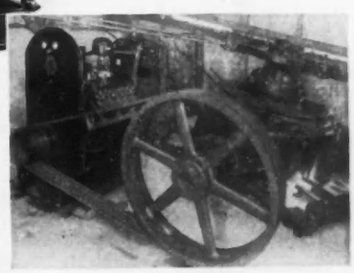

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put down several pressure holes. With an average production of approximately seven barrels, the wells range from 600 to 950 feet in depth, depending on the elevation, with the average close to 800 feet.

The Rynd farm was famous in the early history of the oil industry. Wells were drilled on it a year following Drake's discovery well. Probably the best known of the wells on this farm was the Reed and Crisswell producer, completed on July 8, 1864, which came in with 280 to 300 barrels per day when crude was selling at $13.75 per barrel, the highest price since 1860.

Investigation Lags

Harrisburg.—Impatient that his proposal for investigation of the oil and natural gas industry is not being rushed through the legislature and fearful that the findings of the investigating body would not be available in time for the legislature to consider proposals to place oil and gas under state regulation before adjournment of the present session, Governor George H. Earle of Pennsylvania last week sought to speed authorization of the investigation by the legislature.

Cites Need for Investigation

The governor declared gasoline was selling for 14½ cents a gallon in Philadelphia and 20 cents a gallon in Pittsburgh, citing this as illustrating the need for investigating the industry. The measure before the legislature impowers the investigating committee to probe into all branches of the industry and to report to the governor with recommendations "as to such regulatory legislation as may be needful to correct any abuses and evils connected with such industry."

"I see no reason why Western Pennsylvania should be obliged to pay 5½ cents a gallon more than Eastern Pennsylvania for the same product," the governor said. "I am absolutely convinced a thorough and impartial survey of the entire industry will be of tremendous benefit to the people of Pennsylvania.

Will Request Bill Passage

"There is at present a bill before the legislature, presented at the request of the administration, to authorize such an investigation. I shall ask that passage of this bill be expedited, so that no time may be lost.

"The petroleum industry is vital to public welfare, and affected with a public interest which cannot be overlooked. It is most necessary that fair practices and a stable market be assured before monopolistic methods result in a serious crisis," the governor concluded.

Indianapolis. — Authority to inaugurate natural gas service in Frankfort, Lebanon, Ulen and several other communities in Clinton and Boone Counties is being sought from the public service commission by the Public Service Company of Indiana. In testimony before the commission, L. B. Schiesz, controller of the company, declared that natural gas would reduce the gas bills of Frankfort consumers $23,152 and the bills of Lebanon customers $9,500 annually.

EASTERN STATES
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
WEST VIRGINIA		
BOONE COUNTY—		
Owens Illinois Glass Co., G. T. Hill 3	¶2	2405
G. L. Ballantine, Tr., Taylor & Shaw 1	¶	2100
CALHOUN COUNTY—		
Dunn Mar O&G Co., P. A. Reip 1..	¶	1927
GILMER COUNTY—		
Carnegie Natural Gas Co., Floyd & Allen 1	¶	1597
Verle Stewart et al, Frank Stalnaker 2	*	1807
JACKSON COUNTY—		
Boggess & Starcher, E. S. Halbert 1..	*	1600
Lima Gas Co., B. F. Litton 1.....	*	1580
KANAWHA COUNTY—		
Pure Oil Co., Williams Coal Co. 268.	10	3244
United Fuel Gas Co., Geo. Creek Land & Mining Co. 4679.....	¶3	4998
MARSHALL COUNTY—		
Guy B. and A. C. Patterson, Gibson & Peterson 2	4	3325
PLEASANTS COUNTY—		
Grant & Atha Oil Co., J. D. Smith 1	¼	515
C. L. Barton, Roberts Bros. 7.....	*	595
F. M. Clymer & Co., Allen Powell 1	*	1833
RITCHIE COUNTY—		
Glen F. McBurney et al, M. B. Nutter 2	36	1612
Eastern Producers & Refiners Co., Rutherford Bros. 25	5	2007
Patterson & Pope, Harry W. Patterson 3	1	1616
John Trexler et al, M. L. Arlington Corbin 1	¶	1740
W. A. Bickerstaff, Alice Summers 1.	¶	2500
TYLER COUNTY—		
Crawford O&G Co., Thomas Moore 1	5	1803
WETZEL COUNTY—		
Manufacturers Light & Heat Co., Catherine Kelly 1	*	3310
Carnegie Natural Gas Co., Fred Hermann 1	*	3487
OHIO		
BELMONT COUNTY—		
Frank Stranges et al, John Allen 1..	¶	1075
FAIRFIELD COUNTY—		
City Natural Gas Works, Marion Watson 5	*	....
FULTON COUNTY—		
N. L. Stevens, Enos Roth 2.....	*	2205
GUERNSEY COUNTY—		
Hayes Ferguson & Co., Ray Wilson 2	*	1174
Ohio Fuel Gas Co., Evalene Hall 1.	¶	1601
HARRISON COUNTY—		
Frank Lyons, Ross-Patterson 1....	¶	5607
HOCKING COUNTY—		
Preston Oil Co., Sunday Creek Coal Co. 145	50	3413
LICKING COUNTY—		
Striker & Armbuster, G. E. Patton 7.	10	675
LORAIN COUNTY—		
Snyder & Wiles, Mary Walker 1....	¶	2672
William Dempsey, Cornelius Moore.	¶½	2374
Kemrow Co., Mary Walker 1.....	¶½	2678
Mary Walker 2	¶½	2676
MEDINA COUNTY—		
Harry Latshaw, Harry Aylard 2.....	*	....
E. R. Edson & Co., Ray & Cora Koons 4	*	558
MEIGS COUNTY—		
Smith Oil Co., Jasper Miller 2.....	¶1	686
C. W. Hoback & Co., E. W. Higginboth 1	*	1930
MONROE COUNTY—		
Local Co., A. & M. Faber 4.....	*	1455
MORGAN COUNTY—		
Chognill & Co., Onie Linscott 24....	¶	1394
MUSKINGUM COUNTY—		
Mid-East Gas Co., Charles Sines 1..	¶¼	4315
PERRY COUNTY—		
Wehrle Bros., Worley Deaver 7.....¶1/3		1230
Preston Oil Co., Dora Lones 1.....	¶	2975
STARK COUNTY—		
Brendal Producing Co., Clark Stark.	¶3	4328
Pfieffer & Co., A. V. Pontius 2.....	¶½	4603
TUSCARAWAS COUNTY—		
Walton & Co., Buckeye Fire Clay Co. 2	*	1115
VINTON COUNTY—		
Powers Oil & Gas Co., Cameron S. Clark 12	3	1170
WASHINGTON COUNTY—		
Swigle & Co., Clarence Palmer 32..	2	575
O. K. Parrett, A. A. Goodard 1.....	2	631

Olympia, Wash.—A measure which would have boosted the Washington gasoline tax one-half cent, at a cost of $1,700,000 to motorists and the industry, has been vetoed by Governor Clarence D. Martin after passing both houses of the legislature.

Company, Well and Location	Init. Prod. Bbls.	Depth
PENNSYLVANIA		
BEAVER COUNTY—		
Laughner Oil & Gas Co., and American Natural Gas Co., William Wilsman	*	5319
GREENE COUNTY—		
B. L. Frye, Milton Martin 1.....	¶¼	3445
Dunn Mar Oil & Gas Co., J. G. Laughman 2	*	3254
WASHINGTON COUNTY—		
Manufacturers Light & Heat Co., A. O. Vankirk 5	10	2813
Carnegie Natural Gas Co., Mrs. Menzer 1	10	3002
Union Gasoline & Oil Corp., C. H. Miles	¶1	2856

MICHIGAN
Completions

ARENAC COUNTY—		
C. H. Bell's Dobler 1, ne ne sw, 9-20n-4e	¶3½	1170
CLARE COUNTY—		
Wittmer Oil Co.'s Musgrove 1, c sw sw 3-18n-5w	*	4170
GLADWIN COUNTY—		
Cryden & Rowmor's Shaffer 1, sw se sw 12-18n-1w	740	3636
Double K Trust's State A-2, ne nw ne 14-18n-1w	1300	3630
State A-3, se nw ne 14-18n-1w...	700	3639
Muskegon Dev. Co.'s McMahan 1, sw sw nw 25-18n-1w	20	3633
Petroleum Investor's Upton 2, sw ne nw 36-18n-1w	750	3580
ISABELLA COUNTY—		
Pure Oil Co.'s Dell 1, se se se 28-15n-6w	40	3631
Leiter 2, sw nw nw 34-15n-6w ...	130	3624
Rowmor Corp.'s Bishop 1, se sw nw 28-15n-6w	*	1070
MECOSTA COUNTY—		
Kalamazoo Imp.'s Green 1, c se sw 20-11n-9w	*	3890
MUSKEGON COUNTY—		
West Mich.'s Jibson 1, c nw 9-9n-14w	¶1	1290
OSCEOLA COUNTY—		
Dibble Brother's Townsend 1, ne nw nw 22-20n-7w	*	4100
OGEMAW COUNTY—		
W. J. Bernier's Isworski 2, nw ne ne 23-22n-1e	200	2838
H. C. Nelson's State 5, nw sw sw 31-22n-3e	45	1900

*Failures; †Junked; ¶Million cu. ft. gas.

TO RAISE CAPACITY

Tyler, Texas. — American Liberty Pipe Line Company, owner of an 8-inch crude line that extends from East Texas field via Conroe field to Norsworthy terminal on the Houston Ship Channel, has purchased equipment to install a main line station between Conroe and the terminal. This plant will include two Diesel engines and centrifugal pumps, and will raise the capacity of the line from 27,000 barrels to 35,000 barrels daily from Conroe south.

BETTER TALCO OUTLET

Talco, Texas. — Humble Pipe Line Company will provide additional pumping capacity on its 8-inch trunk line, which extends from Talco to Longview Junction, by installing 8000-barrel capacity units at Talco and Pittsburg stations. Maximum capacity of the line, operating at 800 pounds pressure with stations spotted at 16-mile intervals, is about 13,500 barrels daily. Crude produced at Talco is one of the most difficult in Texas to transport by pipe line, and in cold weather the oil must be heated to about 100 degrees at each station.

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IMPORTANT WILDCAT TESTS

ALABAMA

CHOCTAW COUNTY—Joe Modisett et al's McCorvey 1, se sw sw 20-9n-2w, woc 16-in csg 200 ft.

GREENE COUNTY—Willis & Payne's R. C. Lett 2, se nw 6-21n-2e, dk.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, elev 191 ft, top Tuscaloosa 3060 ft, arr deepen, td 4975 ft Tuscaloosa.

MOBILE COUNTY — Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, lcn.

ARKANSAS

ASHLEY COUNTY—Joe Modisett & Phillips Pet. Co.'s Stillions Lbr. Co. 1, s½ sw nw 18-17n-9w, lcn under water, rog.

CLARK COUNTY — McLarry & Carlin's Bierne Lbr. Co. 1, ne se ne 22-10s-21w, rur. J. G. Wooten's Sparkman 1, sw nw 1-11-20, dry abn 563 ft. M. W. Martin's C. L. Cabe 1, nw nw 14-10-20, 10-in csg 80 ft.

CLAY COUNTY—Nelson et al's Underwood 1, se sw ne 4-20-8, sd 800 ft.

GRANT COUNTY—Wallace & Staples' W. F. Davis 2, se se nw 23-6-15, fsg drill stem 2380 ft.

HEMPSTEAD COUNTY—Root Pet. Co.'s Drake 1, se nw 23-14-24, elev 311 ft, base massive anhydrite 2905 ft, sd 4106 ft. J. R. Birdwell's Duckett 1, 24-13-24, 10-in csg 100 ft, sd 1530 ft shale. Sheppard & Todd's Smith 1, ne sw se 1-11-25, sd 600 ft.

LA FAYETTE COUNTY—King Drlg. Co.'s Walcott 1, c ne sw 36-19-26, 12½ in csg 488 ft, coring 5155 ft, hd lime and gray shale. A. M. Neely's Meek 1, ne nw 35-19-25, dry in drill stem test 3347-58 ft, sd 3358 ft.

LITTLE RIVER COUNTY—J. G. Strahan's Dierks Lbr. Co. 1, 21-12-28, coring 2191 ft.

MILLER COUNTY — Nivla Oil Corp.'s Merchants & Planters Bank 1, se se 18-15-26, spd and finishing rur. Thad Bryant's Commercial Bank 1, 20-18-28, lcn. W. M. Layton et al's Fee 1 to 10, inclusive, on Rector land, 17-20-28, lcns. Allred & Allred's E. A. Rector 1, w½ w½ 16-20-28, lcn. Tony DeGrazier's E. A. Rector 1, sec 17-20-28, lcn. Kimbrough et al's Capps 1, ne sw 11-20-28, rur. Layton Oil Co. et al's Terry 1 to 5 inclusive, 14-20-28, lcns. E. H. Moore's Dale 1, 24-15-26, rur; Dale 2, 24-15-26, rur.

NEVADA COUNTY—Benedum & Trees Oil Co.'s Block 1, ne se 9-14-20, elev 287 ft, cored sandy lime so 4990-5012 ft, sw, abnd, td 5394 ft. G. H. Vaughn's Christopher 1, sw se 3-14-20, dr 4420 ft. W. E. Stewart's Mendenhall 1, nw ne 1-14-20, dr 1900 ft, (second hole).

SEVIER COUNTY—J. C. Brinkley's Dierks Lbr. Co. 1, se ne 14-20-29, spd and sd, high water.

UNION COUNTY—Lion O. R. Co.'s Morgan 1, 18-18-17, tested hfo in 2 drill stem tests, completed flowing 17 bbls oil per hour, 19/21-inch tubing choke, td 5559 ft. Ark. Southern Oil Co.'s G. G. Simmons 1, nw nw 15-18-13, woc 200 ft. Sklar Oil Corp.'s Cordell 1, ne se sw 24-19-16, rur.

CALIFORNIA

FRESNO COUNTY

CANTUA CREEK—Western Gulf's S. P. Land 3, 3-17-15, td 8531 ft, redr to 8525 ft, washing perforations.

KERN COUNTY

PREMIER—Allied Pet. Co.'s Newhouse 1, 29-27-27, rur. Bojaki Oil Co.'s Bowen 1, 28-27-27, sd 1959 ft.

LERDO AREA—Arkelo Pet. Co.'s No. 1, 23-28-26, td 10,056 ft, fsh dr pipe, top at 4400 ft.

KERN FRONT — Barnhart-Morrow Cons., Davies 1, 3-28-27, td 2630 ft, plug 2380 ft, recoring from 2380 to 2600 ft, oil sand and shale. Seskayden Oil Co. No. 3-A, 17-28-27, td 2890 ft, plug 2870 ft, co.

ARVIN—Bear Mountain Oil Co.'s Tejon 2, 16-31-30, rur. General Pet. Corp.'s Arvin 1, 26-31-29, td 7462 ft, plug 7453 ft, sd.

SO. MARICOPA—E. A. Bender's Robinson 1, 14-10-23, td 1235 ft, plug 550 ft, sd. Trans-Line Pet. Corp.'s No. 1, 3-10-23, sd 662 ft.

GREENFIELD — British American's Smith 1-A, 21-31-27, sd 1128 ft.

GRAPEVINE—Buffalo Oil Co.'s Tejon 1, 5-10-19, sd 4452 ft. Ohio Oil Co.'s Title Ins. D-1, 21-11-19, dr shale thin streaks sand slight cuts 7560 ft. Reserve Oil & Gas Co.'s Ritchie 33-1, 33-11-19, td 6030 ft, plug 4990 ft, sd; Tejon 33-2, td 4505 ft, redr to 4476 ft, swabbing 10 bbls hour 24 gravity clean oil, fluid level at 3500 ft; Tejon 33-3, td 4431 ft, gas well, shut in.

SAN EMIDIO—I. L. Burch's No. 1, 3-10-23, dr shale 2820 ft. Union's No. C-1, 34-11-22, abn. 4805 ft.

WASCO—Continental Oil Co.'s K.C.L. A-1, 8-27-24, td 9545 ft, co to bottom, and to take a few more cores before testing. Seaboard Oil Co.'s Continental K.C.L. C-1, 26-27-24, td 5000 ft, wocs 9⅝ in at 4996 ft.

ROSEDALE—Continental Oil Co.'s K.C.L. B-1, 12-29-26, dr shale 6540 ft.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, dr brown shale 3562 ft. Geo. Goodrum's Baron 1, 24-25-18, lcn. Lube Oil Co.'s Gordon 1, 2-25-18, td 4280 ft, perforated 3500 to 3700 ft, bailing water.

JASMINE—Doyle Pet. Corp.'s Quinn 1, 15-25-26, td 2956 ft, plug 2882 ft, bailing sand; No. 2, dr shale 1820 ft.

EDISON—East Edison Oil Co.'s No. 1, 23-30-30, sd 960 ft.

ROUND MOUNTAIN—Eastmont Oil Co.'s Olcese 1, 16-28-29, bldg. rig. Pageman & Hennes' No. 1, 10-28-29, sd.

ELK HILLS—Elk Hills Pet. Corp.'s No. 1, 14-31-28, dr sand and shale 6702 ft, malinia zone topped at 6028 ft.

NO. KERN RIVER—Hub Oil Co.'s No. 1, 8-28-28, rur.

RIO BRAVO—Mohawk Pet. Co.'s K.C.L. 1, 23-29-25, dr shale 6860 ft. Petroleum Securities Co.'s Wright 1, 23-29-25, sd 50 ft. Tide Water Associated's K.C.L. 1, 30-29-25, sd 9000 ft. Union's Kern Co. 1-34, 34-28-25, dr shale and sand 750 ft.

TEN SECTION—Shell's Canal 21-14, 14-30-25, dr shale 4417 ft. Superior Oil Co. and Union's K.C.L. 8, 11-30-26, td 10,510 ft, dr shale.

GOSFORD—Signal Oil & Gas Co.'s K.C.L. 1-A, 21-30-27, dr shale 7510 ft.

WEST MOUNTAIN VIEW — Sunset Oil Co.'s Sunset-Starr 1, 17-30-28, rur.

McGUNDEN—Superior Oil Co. and A. T. Jergins Trust's Crome Com. 1, 36-29-28, dr shale 3360 ft.

MIDWAY SUNSET—Valley Oil Co.'s No. 1, 18-32-23, dr shale and sand 2748 ft.

BAKERSFIELD—Wilshire Oil Co.'s Cohn 1, 35-29-27, rur.

MISCELLANEOUS

HUMBOLDT COUNTY—Texas Co.'s Eureka 1, 22-3-1, td 7418 ft, co.

KINGS COUNTY—Central Calif. Utilities' Kettleman-Lakeview 3, 11-23-19, td 1207 ft, plug 1193 ft, tested wet, replugged. Dudley Ridge Dev. Co.'s No. 2, 24-23-20, foundation. Pyramid Prod. Co.'s Spreckles 2, 16-24-18, lcn. Kettleman View Oil & Gas Co.'s No. 1, 9-22-19, td 4787 ft, wocs 6⅝ in at 3400 ft. T. G. Norell's Gnessel 1, 7-21-21, sd 6172 ft. Glen C. Stone's Teeter 1, 25-20-20, td 1040 ft, wocs 8⅝ in at 790 ft. Trico Oil & Gas Co.'s Cal-West 2, 10-23-22, rur. Tide Water Associated's Avenal 2, 35-23-17, dr hard shell 2762 ft.

SAN BENITO COUNTY—Tide Water Associated's Murphy Ranch 1, 5-12-4, td 6860 ft, formation tester recovered salt water, trace oil, to core ahead.

SAN JOAQUIN COUNTY—Coast Explor. Co.'s TFI-1, 2-3-4, dr shale 1260 ft. Standard's McDonald Farms 3, 24-2-4, rig.

SOLANO COUNTY—Amerada Pet. Corp.'s Drouin 2, 25-4-2, td 4463 ft, wocs 7 in at 4275 ft; Emigh 2, 26-4-2, lcn.

SUTTER COUNTY—Buttes Oil Fields' No. 4, 2-15-1, td 5200 ft, co.

TULARE COUNTY—J. W. Alford's Williams 1, 28-16-23, sd 1023 ft. R. R. Ellis' Ellis 1, 20-24-23, rig. E. P. Jennings' No. 1, 4-24-23, td 2707 ft, plug 2680 ft, fsh; No. 2, 33-23-23, rig.

MONTERREY COUNTY—Amil A. Anderson's No. 1, 15-24-14, dr shale 560 ft. Shell's Branch 2, 34-24-10, dr shale 7340 ft. Texas Co.'s Dunphy 1, 30-19-7, dr shale 4132 ft.

SAN LUIS OBISPO COUNTY—Aviation Oil Co.'s Britnall 1, 10-11-35, sd 1639 ft. Barnsdall's K.C.L. A-1, 1-32-20, dr shale 3001 ft. Burkholder Oil Corp.'s Clay 1, 14-10-26, dr shale 722 ft. R. A. Foster's McKee 1, 2-32-23, sd 5086 ft. Gretna Corp.'s Miano 1, 25-30-10, ready to spud. A. T. Jergins Trust's Indian Knob 1, 26-31-12, sd 1438 ft. Pismo Pet. Co.'s No. 1, 5-32-13, dr shale 3316 ft. Temblor Oil Co.'s No. 1, 22-31-21, dr shale 327 ft. United Foreign Oil Co.'s Panorama 2, 2-32-21, sd 2435 ft.

SANTA BARBARA COUNTY — E. E. Arnold's Careaga 1, 8-8-33, grading roads. Julius Dietzman's Fithian 1, 8-4-25, sd 1025 ft. O. C. Field's Santa Rita 1, 11-7-33, sd 2064 ft. Daniel Fisher's No. 1, 28-11-28, sd 650 ft. Nine Springs Oil Co.'s Brinkinhoff 1, 9-7-30, sd 3300 ft. W. D. Shaffer's Houk 1, 9-9-33, sd 5003 ft. Todos Santos Oil Co.'s No. 1, 29-9-34, td 2365 ft, pumping water. Union's O'Donnell 1, 21-10-34, dr shale 3070 ft. Valley Oil Co.'s Chief 1, 20-9-34, sd 1760 ft.

VENTURA COUNTY—Continental Oil Co.'s Casitas 1, 7-3-23, dr hard sand 5975 ft. Speik Oil Co.'s Speik 1, 35-5-19, td 2030 ft, r at 1962 ft. Vaca Oil Explor. Co.'s Calif. Lands 1, 6-1-21, sd 2830 ft; Giovanni Vai's Scott 1, 4-4-21, rur (formerly Echo Falls Oil Co.).

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall's Rancho S.F. 1, 26-4-17, td 6472 ft, flowing 345 bbls 36 gravity, cut 4 percent. Will let it flow for a time before deciding on second well or whether present well will be deepened. Holbrook Pet. Co.'s Newhall Land 1, 28-4-16, dr 4996 ft, ran formation tester, but did not hold.

PICO CANYON—A. G. Burt's No. 1, 36-4-17, dr shale 678 ft.

LYNWOOD—Calizoo Oil Co.'s Saulque 1, 9-3-13, sd 3995 ft.

ARTESIA—Caltana Corp.'s Caltana 1, 11-4-12 (formerly Montana Land), ready to spud.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 32-3-12, dr sand and shale 4120 ft.

FOX HILLS AREA—County Club Oil Co.'s No. 1, sd 2930 ft.

EAST WHITTIER—Driller's Inc., No. 1, 22-2-11, td 1640 ft, plug 846 ft, sd.

DAVIDSON CITY—Hilldon Oil Co.'s Flood Control 1, 11-4-13, td 5732 ft, flowing by agitation 165 bbls 26.4 gravity clean oil, landed liner including 54 ft of perforated at 5732 ft.

WEST COYOTE—Hogan Pet. Co.'s McNally 1, 23-3-11, dr shale streaks sand 3460 ft.

WALNUT—Julian & Criswell's Langstaff 1, 5-2-9, dr shale streaks hard sand 1497 ft.

HERMOSA BEACH—Leora Oil Co.'s No. 1, 31-3-14, td 5490 ft, plug 3935 ft, to set 8⅝-in.

PALOS VERDES—McClaren Bros' No. 1, 27-4-14, td 3970 ft, redr at 1750 ft, showing oil and gas on ditch 1720 to 1750 ft.

ROSECRANS—Shell's McKinley 4-1, 20-3-13, td 7744 ft, plug 7605 ft, co and swabbed mud, gas and water.

ORANGE COUNTY—Mesa Oil Co.'s No. 1, 29-6-10, dr hard brown shale streaks sand 6527 ft, gas and oil showings on ditch. Shell's Core Hole A, 23-3-9, dr 690 ft; Mathis 1, 23-4-10, to 4690 ft, to test showings. Thomas & Moulton's Kraemer 1, 21-3-9, rig.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abondoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so&g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

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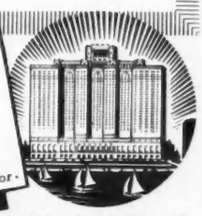

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FLORIDA

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 2, se se 17-24s-25e, elev 120 ft, arr set csg, td 6118 ft, red quartzite.

NASSAU COUNTY—St. Mary's River Oil Corp.'s Hilliard Turpentine Co. 1, nw nw se 19-4n-24e, elev 110 ft, fsg bit, td 1408 ft lime.

POLK COUNTY — Edw. A. Hill's Polk County Lbr. Co. 1, nw nw ne 32-25s-25e, dk.

KANSAS

BARTON COUNTY—I.T.I.O. Co.'s Schrepel 1, se se ne 26-20s-11w, 2000 A; P. 497 bbls oil 11 hrs 40 min through 2¼-in tubing. Herndon Drlg. Co. and Morgan & Flynn's Robenseifer 1, cnw 7-8s-15w, dr 930 ft. C. L. Price et al's Kraft 1, sw nw ne 10-17s-11w, dr 2945 ft. C. L. Carlock's Leibel 1, se ne se 18-18s-11w, fsg 1860 ft. Missouri Valley O&G Co.'s Peach 1, se se se 24-16s-14w, dr 3000 ft. Ralph Wixon and Union O&R Co.'s Frederick 1, nw nw nw 12-16s-13w, dr 1662 ft. Geo. Dickey et al's Boger 1, se se ne 15-16s-13w, ru. C. L. Carlock's Ehly 1, ne ne se 5-18s-11w, rot rig. C. H. Weaver's Stumps 1, ne ne ne 3-17s-12w, br. E. F. Wakefield et al's Scheuermann 1, ne ne sw 31-16s-15w, ur 12-in csg 454 ft.

BUTLER COUNTY—A. M. Landon et al's McCaig 1, ne ne se 13-28s-6e, pb 2737 ft; F. 50 bbls oil 30 min, testing. C. L. Seibel et al's Bisagno 1, se se nw 24-25s-6e, dr 825 ft. Vickers Pet. Co.'s Voth 1, cnl s½ sw ne 32-24s-4e, dr 875 ft. Sid Neff et al's Church 1, sw ne se 8-28s-5e, dr 785 ft.

CHASE COUNTY—Hanna et al's Brothers 1, se se nw 25-20s-8w, dr 3500 ft.

CHAUTAUQUA COUNTY — W. M. McKnab's Griffith 1, sw sw sw 11-32s-10e, set 12-in csg 390 ft, co. E. I. Shaffer's Nuckalls 1, nw nw nw 12-33s-9e, dr 900 ft. Ira Scott et al's Lambe 1, sw nw ne 18-33s-13e, sd 410 ft.

COWLEY COUNTY — W. M. McKnab's Weldschmidt 1, sw sw nw 18-34s-6e, dr 3503 ft. McKnab's Community 1, cne nw 14-34s-3e, dr 3720 ft. Wentz and Amerada's Rush 1, nw sw sw 36-34s-6e, dr 2270 ft. Tom Palmer's Lowe 1-A, sw se se 3-32s-5e, dr 1710 ft. Ryan Consolidated's Couch 1, sw sw se 13-30s-5e, dr 1520 ft. Elmer Ash et al's Bolack 1, nw nw se 22-32s-6e, br. Bess & Gralapp et al's Wakefield 1, ne se sw 18-30s-6e, br.

DECATUR COUNTY—Bruce et al's Newbold 1, cne sw 34-2s-28w, brr.

ELK COUNTY—Wentz et al's Love 1, sw se ne 35-30s-9e, dr 495 ft.

ELLIS COUNTY—Empire's Samuelson 1, ne ne ne 31-11s-16w, woc. Murphy Oil Co.'s Weisner 1, se se sw 12-14s-19w, sd 3470 ft. Empire's Hall 1, se se se 2-12s-17w, td 3704 ft, D & A. Sunray Oil Co.'s Befort 1, ne ne ne 11-14s-20w, sd 3903 ft. Mazda Oil Co.'s Henderson 1, sw sw ne 27-11s-18w, dr 730 ft. Noble Pet. Corp.'s O'Laughlin 1, nw nw se 13-12s-19w, dr 2215 ft. Earl Wakefield's Putnam Mort Co. 1, se se nw 32-15s-17w, dr 1465 ft. Ted Kors et al's Koblitz 1, se sw nw 23-12s-18w, testing. Bridgeport Mach. et al's Froelick 1, nw nw se 4-13s-16w, dr 1025 ft.

ELLSWORTH COUNTY—Keith & Olson Drlg. Co.'s Ely 1, nw nw sw 34-22s-29w, dr 5197 ft.

GREENWOOD COUNTY—Ohio Oil Co.'s Schwab 1, se sw se 9-24s-10e, P. 155 bbls oil and 15 percent water first 24 hrs; P. 80 bbls oil and 15 percent water 2nd 24 hrs. Moncrief's Gruber 1, nw nw nw 5-23s-13e, dr 1830 ft. Shull Drlg Co.'s Cannon 1, ne se ne 23-25s-12e, dr 175 ft. Dr. Shippey's Boone 1, ne ne nw 21-26s-2e, dr 1825 ft. L. S. Balwanz's Travellers Ins. Co. 1, csw sw 23-26s-10e, dr 600 ft.

HARVEY COUNTY—E. I. Shaffer et al's Seihart Estate 1, csw nw 4-34s-8w, fsg 4350 ft.

HARVEY COUNTY—E. I. Sraffer et al's Epp 1, se se sw 15-23s-3w, lcn.

KEARNEY COUNTY—J. L. Murphy's Masonic Home 1, cnw¼ 1-25s-36w, rur.

LOGAN COUNTY—Rosespring Drlg. Co. et al's Wright 1, cse se 12-15s-35w, sd 4025 ft.

LYON COUNTY—Clyde Fred et al's Bruce 1, nw nw nw 13-18s-10e, woc. Davis & Sory's Byrd 1, sw sw se 32-21s-11e, rum.

McPHERSON COUNTY—Hutchinson O&G Co. et al's Berg 1, sw sw se 15-20s-3w, dr 2736 ft. Wamhoff et al's Nuse 1, se se sw 18-18s-4w, set 10-in csg 110 ft, woc. Bradley Bros.' Barnholt 1, sw sw se 30-20s-5w, dr 660 ft. Fred C. Frank et al's Doles 1, se nw ne 12-19s-1w, sd 600 ft.

MEADE COUNTY—Pacific Midwest Co.'s Rexford 1, ne se sw 8-30s-29w, lcn abd.

MITCHELL COUNTY—Geo. Seidhoff et al's Greiss 1, sw sw se 16-8s-10w, hfw 2364 ft, ur 8-in csg.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, dr 4005 ft. Jones & Lane's Page Milling Co. 1, se se nw 36-18s-26w, rig. Patton & Paul's Lank 1, se se sw 35-18s-21w, lcn.

RENO COUNTY—Clyde Pulse et al's Payne 1, sw nw ne 4-22s-7w, P. 10 bbls oil per hr. Foraker et al's Hiett 1, se sw ne 34-24s-4w, td 4031 ft, wih. Atlantic's Page 1, se nw nw 19-23s-7w, fsg 3681 ft. Olson Drlg. Co. et al's Herriman 1, nw nw nw 22-24s-8w, dr 2590 ft. Imo O&G Co. et al's Watkins 1, se se se 14-22s-7w, spd. Westgate-Greenland Oil Co.'s O'Sullivan 1, sw sw ne 24-23s-5w, set 8-in csg 3385 ft, rust. Sinclair Prairie's Nett 1, nw nw se 32-26s-4w, brr.

RICE COUNTY—T. C. Johnson's Schubert 1, sw sw sw 9-20s-10w, ur 8-in csg 2630 ft. L. E. Douglas' Coyne 1, ne se se 24-21s-8w, dr 1725 ft. John Hanna et al's Fulton 1, nw nw ne 24-19s-6w, dr 2265 ft. Manning, Martin et al's Mathes 1, se sw ne 27-21s-8w, fsg 3685 ft. Roy Ramsey et al's Malone 1, nw nw ne 1-20s-10w, testing 3303 ft. C. E. Skiles et al's Helmer 1, nw nw ne 7-19s-8w, ru. Skelly Oil Co. and Ewers Simpson Oil Co.'s Linville 1, sw nw ne 2-20s-10w, dr 2574 ft. Fred Phillips et al's Hubenett 1, sw ne sw 23-20s-6w, dr 625 ft. W. E. Witt et al's Fair 1, ne se se 4-22s-8w, set 15-in csg 139 ft; dr 200 ft. Union O&R Co. et al's Baker 1, sw sw ne 33-20s-6w, dr 950 ft.

ROOKS COUNTY—Snowden & McSweeney's Hindman 1, ce½ nw 35-7s-17w, swb 25 bbls oil and 100 bbls water 24 hrs. Lester & Dean's Burtt 1, se se ne 29-10s-20w, sd 3485 ft. Phillips Pet. Co.'s Manquist 1, sw sw nw 9-9s-17w, sd 1100 ft. Jones Bros. Drlg. Co.'s Wiss 1, nw nw nw 8-10s-8w, dr 1492 ft. Basin Oil Co.'s Baxa 1, ne ne ne 23-9s-17w, dr 2900 ft. Buckner & Schoff's McConnell 1, ne ne ne 34-6s-18w, set 6-in csg 3098 ft, dr 3155 ft. Twin Drlg. Co.'s Doughty 1, sw sw sw 15-8s-19w, dr 3301 ft.

RUSH COUNTY—S. A. Murphy et al's Roth 1, nw nw sw 21-16s-18w, dr 2155 ft.

RUSSELL COUNTY—S. A. Murphy et al's Deines 1, se se sw 36-15s-15w, dr 395 ft. Goldstein & Vernon O&G Co.'s Steinert Estate 1, ne se sw 34-15s-15w, rig. Empire O&R Co.'s Vaughn 1, sw sw sw 17-14s-14w, 3000 A; F. 85 bbls oil 1st hr; set 8-in csg 3023 ft.

SALINE COUNTY — Ryan Consolidated's Weurth 1, sw sw nw 28-14s-2w, dr 3125 ft.

SEDGWICK COUNTY — Cameron et al's Smith 1, sw se se 13-27s-2e, dr 2832 ft. Swearer et al's Thome 1, sw sw nw 19-28s-1w, set 7-in csg 3425 ft, rust. Roxanna Drlg. Co. et al's Woodman 1, sw nw sw 26-26s-1w, fsg 2094 ft. Empire O&R Co.'s Kimel 1, nw nw nw 4-29s-2w, dr 2960 ft. E. B. Shawver's Furman 1, sw ne se 24-29s-3w, ru.

STAFFORD COUNTY—Empire O&R Co.'s O'Conner 1, ne ne ne 17-24s-15w, co 4129 ft. Young et al's Murphy 1-A, se nw ne 32-21s-11w, fsg 1380 ft. Trigg & Vernon O&G Co.'s Andrea 1, se se se 4-23s-12w, td 3731 ft; testing. W. P. Faulkner's Schulz 1, se se ne 6-22s-13w, rot rig.

SUMNER COUNTY—Graham et al's Dawson 1, nw nw nw 4-33s-2w, dr 4065 ft. E. B. Shawver et al's Bryan 1, cw½ w½ sw 36-30s-2w, dr 3192 ft. The Texas Co.'s Harper 1, ne sw se 9-30s-3w, dr 1250 ft. Orcott & Stewart's Newton 1, se se se 21-30s-2e, td 930 ft, D & A.

TREGO COUNTY—Black Gold Oil Co.'s Allman 1, csw sw 34-14s-21w, td 3990 ft, D & A.

WOODSON COUNTY — Harper et al's Weidie 1, se se ne 10-24s-14e, td 2046 ft, D & A.

SOUTH LOUISIANA

ACADIA PARISH—H. E. Dalton's Setting 1, Trilby prospect, 17-9s-1w, sd 5426 ft. Humble's Nordyke 1, Ebenezer prospect, 23-10s-1e, dr shale 9820 ft.

CALCASIEU PARISH—D & D Oil Co.'s Lutcher Moore 1, nw of Starks, 1-8s-13w, fsh 8398 ft.

CAMERON PARISH — Magnolia's Albert Dobbertine 1, Johnson Bayou prospect, 9-15s-14w, dr shale 3339 ft. Union Sulphur's Hebert 1, Big Lake area, 18-12s-8w, dr shale 7014 ft. Southern Oil Co.'s State Maritime 2, 15s-10w, dr shale 2608 ft.

EVANGELINE PARISH — Bel Cheney Spring's Fee 1, 10-2s-1w, sd 2214 ft. Continental-Humble's Pardee 1, Reddell prospect, 18-4s-1w, dr sand no shows 7130 ft.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Peigneur 414, Jefferson Island dome, 12s-5e, rocking with gas 6945 ft.

JEFERSON DAVIS PARISH — Louisiana Crusaders Oil Co.'s I. Langley 1, Fenton area, 36-7s-5w, dr shale 2178 ft. Shell's Sturdevant 1, South Roanoke prospect, 25-10s-4w, comp as gas and distillate producer 8560 ft. Stanolind's United Life Insurance 1, Hayes prospect, 16-11s-5w, dr shale 8604 ft.

LAFOURCHE PARISH — Fohs Oil Co.'s State Long Lake 1, Bourge area, 65-17s-19e, dr shale 5428 ft. William Helis' City of New Orleans 1, Marchland prospect, 19-23s-23e, dr sand 7333 ft.

PLAQUEMINES PARISH—Gulf's State Bay Adams "PP," in Bay Adams, 32-19s-28e, dr shale 4120 ft.

ST. BERNARD PARISH—Gulf's Lake Lery 1, Lake Lery prospect, 28-14s-14e, dr sand no show 5788 ft. Southern Sulphur's State 2, Lake Borgne area, 38-14s-15e, dr shale 3075 ft.

ST. CHARLES PARISH — Amerada-Louisiana Land's State Bayou Des Allemands 1, Black Prince Island prospect, 13-15s-20e, mim.

ST. LANDRY PARISH—Shell's Boagni 1, ne of Cankton field, Bristol area, 48-8s-4e, dr shale 6294 ft.

ST. MARTIN PARISH—Stanolind's Patin L, Anse LaButte area, 46-9s-5e, lcn. Texas Co.'s State 3, Lake Mongouloi prospect, 14-10s-9e, dr shale 5933 ft; same operator's St. Martin Land Co. 9, Henderson prospect, 21-8s-7e, setting 5-in csg 8858 ft.

ST. MARY PARISH — Texas Co.'s State Bateman Bay 1, Morgan City prospect, 21-16s-12e, dr shale 7639 ft; same operator's State Horseshoe Bayou 1, Wax Lake area, 40-17s-9e, fsh 10,976 ft.

TERREBONNE PARISH—Humble's Ellender 1, Houma gas field, 23-19s-19e, dr shale 11,454 ft.

WEST FELICIANA PARISH—Cavalier Oil Co.'s Mackie 1, e of Higator, 55-3s-2w, abn 4529 ft.

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NORTH LOUISIANA

BIENVILLE PARISH—Lide, Greer et al's W. J. Smelley 1, se nw sw 18-16n-4w, spd dr 1760 ft. McDowell et al's Locke 1, 9-15n-10w, claim sg arr make ds test td 2564 ft shale. De-Soto O & G Co.'s Wm. Ashley 1, sw se 15-16n-10w, mim.

BOSSIER PARISH — Ark. La. Gas Co.'s Wilson 1, sw se sw 8-17n-11w, dr 4240 ft. Haynes Drlg. Co.'s A. J. Murff 1, 35-17n-12w, coring 5887 ft, red shale. Producers O & G Co.'s Johnson 1, 5-17n-11w, rur. United's Skannal I-1, sw sw 25-17n-12w, woc 7 in csg 5175 ft; Henderson 1, 36-17n-12w, dr 5600 ft; Webb Unit 1, 23-17n-12w, dr 4572 ft.

CADDO PARISH—Fallon Oil Co.'s Cupples 1, 24-16n-13w, coring 5655 ft, massive anhydrite 4323-4508 ft. Gulf's E. P. Hatcher 1, 11-17n-15w, dry abn td 9244 ft. W. J. Hunter's N. B. Stoer 1, sw ne 10-15n-15w, dr 1145 ft. R. W. Norton's Payne 1, se se 27-23n-16w. Prairie River Synd.'s Hutchinson 1, 15-15n-12w, owdd td 7378 ft.

CLAIBORNE PARISH—Lisbon Oil Co.'s J. W. Burgess 1, se ne 3-20n-5w, elev 354 ft, base massive anhydrite 4212 ft, top Travis Peak 5406 ft, oil stains 5444-5463 ft, sd 5800 ft. Gulf Oil Corp.'s Patton 1, 36-21n-5w, dr 3100 ft; Patton 2, 35-21n-5w, dr 2652 ft; Patton 3, 36-21n-5w, dr 1930 ft; Patton 4, woc 10¾ in csg 649 ft; Bennett 1, 31-21n-4w, dr 2602 ft. Red Iron Drlg. Co.'s Patton 2, 36-21n-5w, spd. J. C. Tippett's H. E. Patton 1, 36-21n-5w, rur. T. L. James & Co.'s Patton 1, 36-21n-5w, rur. Love Pet. Co.'s Patton 1, 36-21n-5w, dr 3270 ft; Patton 2, lcn; Patton 3, fsg 842 ft. Oden & Evans' Patton 2, 36-21n-5w, rur. Lyons & Neely's Maggie Patton 1, 31-21n-4w, dr plug in 10 in csg 938 ft. McMillan et al's Maggie Patton 1, 31-21n-4w, woc 9⅝ in csg 946 ft. J. R. Bevill et al's Edmonds 1, 16-21n-5w, mim. Standard of La.'s R. D. Baker 1, nw nw 27-19n-7w, top red beds 3760 ft, dr 5722 ft. United's Warren Brown 1, se ne 1-19n-6w, 5⅝ in csg 5719 ft, flowed 226 bbls oil in 12 hours then 89 bbls in 12 hours, then went dead, re-testing, td 5745 ft, old td 5984 ft; Dobbis 1, 12-19n-6w, owdd, td 4368 feet.

FRANKLIN PARISH—Jensen et al's Grayson 1, c ne 36-12n-6e, rur.

GRANT PARISH—Horace M. Smith Corp.'s & McConnell Oil Co.'s Ivy McNeely 1, swc 16-6n-3w, woc 20 in csg 30 ft. H. Weir's Quin 1, 10-7n-3w, spd & finishing rur.

DE SOTO PARISH—Sundby et al's Garland 1, se nw 7-14n-14w, elev 300 ft, top first anhydrite 4228 ft, sd 5583 ft. Stevens et al's Leslie Golden 1, se sw 2-11n-16w, lcn. Benedum & Trees Oil Co.'s Clifton 1, ne nw 33-13n-12w, elev 199.2 ft, 12¾ in csg 1010 ft, top massive anhydrite 4096 ft, dr 4531 ft, massive anhydrite. Chamberlin et al's Lanier 1, 29-11n-11w, dk. Pearl Oil Corp.'sJoyner 1, 28-11n-12w, 8¼ in csg 2885 ft, hole clean sd for heavier rig, td 3000 ft. L. S. Fite & Grogan Oil Co.'s Ramsey 1, 36-11n-11w, re-bldg dk blown down by wind while rur to test flow of oil td 3027 ft, old well.

LINCOLN PARISH—E. T. Oakes, Easton & Evans' R. L. Sanderson 1, nw nw 30-18n-1w, dk. Lyons & Neely's H. W. Patton 1, c n½ nw nw 6-20n-4w, lcn. (Lisbon area).

RICHLAND PARISH—Gulf Oil Corp.'s R. R. Rhymes 15, 32-17n-6e, dry abn td 10,001 ft.

WEBSTER PARISH—Bass Drlg. Co.'s Tom Crichton 1, nw nw 21-20n-9w, woc 20 in csg 240 ft. Standdard of La.'s Fudicker 1, 2-17n-9w, perf csg 5560-5600 ft, completed 6,900,000 ft gas and 53 bbls distillate, old td 7202 ft.

MISSISSIPPI

AMITE COUNTY—Jno. P. Wemple, Tr.'s Southern Forest Land Co. 1, sw sw 29-4n-2e, sdtr hung drill pipe at 2150 ft, dr 2635 ft in new hole, old td 4250 ft.

HARRISON COUNTY—Big Ridge Oil Co.'s Hingin 1, se se 13-7s-10w, rur to deepen, td 2150 ft.

JONES COUNTY—Snow-Black Pet. Co.'s Cranford 1, s½ nw 29-7n-12w, dr 2068 ft.

LAMAR COUNTY—Sun Oil Co. et al's Mrs. K. Talley 2, nw ne nw 33-4n-15w, spd, woc 10-in csg 972 ft.

PIKE COUNTY — Acadian Prod. Corp.'s Bales 1, 24-7n-2w, dk.

MONTANA

JUDITH BASIN COUNTY — Fletcher P. Hunt's Hobson 3, nw se ne 30-14n-15e, dr 1345 ft.

PETROLEUM COUNTY—O. B. Canfield's Government 1, cel se ne 21-17n-24e, dr 780 ft. H. Clark Rowland et al's Kalispell 1, ne ne se 31-14n-25e, dr 790 ft.

NEBRASKA

DAWES COUNTY — Stephens Petroleum Corporation's S. J. Palmer 1, nw sw 10-35n-50w, dr 1185 ft.

LINCOLN COUNTY — Smith & Wright's Hansen 1, csw nw 24-15n-31w, dr 1250 ft.

SIOUX COUNTY—J. M. Huber Corporation's Morgan 1, csw sw 32-35n-56w, dr 2736 ft.

OKLAHOMA

CADDO COUNTY — Clyde Becker et al's Pharris 1, c se se nw 24-6n-12w, der; tools on ground.

CLEVELAND COUNTY—Hollenback's Stinson 1, nw nw ne 17-9n-2w, sd 2815 ft.

CREEK COUNTY—J. E. Crosbie & Sinclair Prairie's Bailey 1, ne nw nw 28-16n-8e, td 3808 ft, D & A. W. J. Sherry's Childers 1, sw sw ne 2-15n-7e, dr 3211 ft. M. W. Mosier et al's Holcomb 1, se sw ne 19-18n-8e, fsg 2935 ft.

GARFIELD COUNTY—Arab Oil Co.'s Harkendorf 1, ne ne ne 34-20n-3w, dr 5040 ft. Ohio Oil Co.'s State 1, sw sw sw 13-23n-2w, rig.

GRADY COUNTY—Western White Lily Oil Co.'s Stover 1, cse sw nw 33-3n-7w, co 1770 ft.

HASKELL COUNTY—Continental Oil Co.'s Anderson 1, sw se ne 33-8n-20e, bldg rig.

HUGHES COUNTY—Carson Oil Co.'s Lyter 1, ne nw sw 31-8n-12e, td 4940½ ft, D & A. Wrightsman's Diamond 1-A, se ne ne se 33-9n-9e, dr 3790 ft.

JACKSON COUNTY—Ace Gutowsky's Howard 1, sw sw nw 10-3n-19w, lcn.

JEFFERSON COUNTY—Buffalo Oil Co.'s Crown-Over 1, cse se nw 21-6s-6w, run pipe. Cap Fields et al's Trout 1, ne ne sw 5-8s-7w, td 2260 ft, D & A. Gulf Oil Corp.'s Woodworth 1, cnw nw ne 20-3s-4w, der.

KAY COUNTY—G. A. Brown et al's Harris 1-A, sw sw ne 14-25n-1e, sd.

LATIMER COUNTY—Clark Drlg. Co. et al's Wilson 1, cse se 15-5n-18e, dr 3845 ft.

LINCOLN COUNTY — Anderson-Prichard's Colon 1, nw se sw 28-17n-4e, bail & co. Mid-Continent's Logan 1-A, ne ne se 31-11n-5e, dr 3865 ft.

LOGAN COUNTY — Harry Blackstock's Prince 1, se ne sw 11-17n-3w, td 6482 ft, D & A. Helmerich & Payne et al's Ruck 1, cne se 9-19n-2w, dr 4725 ft. Anthony & Marshall's Fruin-Eckman 1, se se sw 4-16n-1e, co 4975 ft. Helmerich & Payne et al's Randall 1, sw sw nw 24-16n-1w, rig.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, fsg 5288 ft. Sadson-Wells-Pierson's Key 1, cse se nw 6-8s-1w, dr 3183 ft.

MARSHALL COUNTY—Stewart & Taylor's Chestnut 1, ne ne ne 23-8s-5e, est 15 to 20 bbls oil, rng tubing and rods to pump.

MURRAY COUNTY—Russell's Fee 1, se nw se 9-2s-3e, dr 1418 ft. Power Oil Co. et al's Lancaster Trust Co. 1, csw ne 10-1s-2e, sd.

NOBLE COUNTY—Lincoln Oil Co. et al's Neil 1-A, ne ne ne 15-23n-2w, dr 2970 ft.

OKFUSKEE COUNTY—Mid-Continent Pet. Corp.'s Gofford 1, ne ne nw 35-12n-7e, dr 665 ft.

OSAGE COUNTY—Norbla Oil Co.'s No. 1, ne ne se 13-23n-6e, whpstk 740 ft, lost tools. Bay Oil Corp.'s No. 1, nw nw nw 35-24n-7e, set 12½-in csg 488 ft, dr 870 ft.

PAYNE COUNTY—H. F. Young's Jenkins 1, se ne se 4-17n-3e, dr 4595 ft.

PONTOTOC COUNTY — E. H. Moore's Muse 1, sw ne se 33-2n-7e, pb 4570 ft, F 31 bbls oil 5 hrs, acid & test. Southern Oil Co.'s Young 1, ne ne se 17-3n-7e, C & P.

POTTAWATOMIE COUNTY — Champlin Ref. Co.'s Buckler 1, se ne ne 7-6n-4e, dr 4200 ft.

PUSHMATAHA COUNTY—Erle Halliburton et al's Bogwell 1, sw ne ne 30-3s-15e, td 1293 ft, sd.

SEMINOLE COUNTY—Hudson et al's Tanyan 1, se se sw 32-10n-7e, dr 4250 ft. Sinclair Prairie's Rossanna 1, nw nw sw 28-10n-8e, td 4164 ft, rust. Amerada-Stanolind's Face 1-A, sw sw sw 12-9n-7e, td 3408 ft, D & A. J. E. Hall et al's White 1, se nw se 30-6n-8e, swb 32 bbls oil and 18 bbls water 18 hrs, pb, woc.

STEPHENS COUNTY—Edwards' Frederick 1, ne se nw 31-2n-8w, rigging mach. Carter's Harley 1, cne ne 24-4s-4w, dr 4209 ft. Wm. Angle et al's Posey 1, cnw nw 8-1n-8w, rng cor bbls 5140 ft. Helmerich & Payne's Graham 1, csw sw ne 12-1n-5w, testing 5014 ft. Ed Parson's Olson 1, csw sw 21-2n-8w, td 7002 ft, testing. B. F. Lundy's Calmes 1, cnw sw se 35-1n-4w, sd 2725 ft. Penn State Oil Co.'s Cole 1, cw½ sw nw 21-2n-8w, dr 390 ft.

TEXAS COUNTY—Cabot Carbon Co.'s Castro 1, cne 19-3n-17ecm, set 7-in csg 2570 ft. Missouri Valley Gas Corp.'s Fitzgerald 1, c sec 17-6n-14ecm, rig.

TILLMAN COUNTY—I.T.I.O. Co.'s Hatler 1, csw ne 32-2s-17w, testing. D. S. Smith's Hammill 1-A, ne nw nw 6-5s-15w, fsg 2425 ft.

EAST TEXAS

ANDERSON COUNTY—Tom F. Hunter, Jack Frazier & American Liberty Oil Co.'s G. E. Gage 1 (160-ac), C. B. Gilbert sur, 2 mi se Blackfoot, elev 384 ft, Pecan chalk 2850-3004 ft, Austin chalk 3980-4376 ft, top Woodbine 4782 ft, top Red Beds 4989 ft, top George town lime 5384 ft, top Paluxy 6578 ft, top upper Glen Rose 7029, dr 7810 ft. Roeser-Pendleton, Inc.'s V. W. Bowyer 3 (200-ac), E. Ritter sur,

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Cayuga field Trinity test, elev 317 ft, Pecan chalk 2235-2455 ft, dr 3500 ft. Tide Water Associated-Seaboard Oil Corp.'s Monnig Bros. 7 (3806.82-ac), S. Sanchez sur No. 1-11, Long Lake field Trinity test, elev 233 ft, Pecan chalk 3565-3766 ft, Austin chalk 4687-4957 ft, top Woodbine sand 5273 ft, top Georgetown lime 5904 ft, top Anhydrite 8343 ft, dr 8705 ft.

BOWIE COUNTY—Ferguson & Hill's A. Y. Breckenridge 1 (412-ac), Nancy Dycus sur, 4 mi w Texarkana, top Annona chalk 1308 ft, top Blossom sand 2063 ft, sd 2605 ft. Sutton & Hawkins' N. M. McDuffey-Harris 1 (389.45-ac), John Ball sur, 3 mi se New Boston, elev 333 ft, top Annona chalk 1472 ft, top Georgetown lime 2847 ft, top Paluxy series 3350 ft, top Anhydrite stringer 4495 ft, top Massive Anhydrite 4640 ft and base 4825 ft, fsh dp in lime 5020 ft. Mrs. S. O. Thompson & Jeffie's R. Rosalind 1 (377½-ac), Jefferson Milam sur, 3 mi sw Red Water, rur.

CHEROKEE COUNTY—J. G. Mayo et al's Dr. J. T. Greenwood 1 (21½-ac), C. Parks sur, 4½ mi w Lone Star, lcn abd; J. L. Bailey 1 (248-ac), J. H. Russell sur, sp. Stoco Oil Co.'s E. B. Parks 1 (17-2/3-ac), J. T Cook sur, lcn. Joe A. Sanders-Fensland Oil Co.'s J. W. Ware 1-A (106-ac), J L. Trimble sur, Pecan chalk 2706-3100 ft, dry and abd in shale 4036 ft.

DALLAS COUNTY—Mauldin Oil Co.'s W. E. Howell 1 (107.7-ac), S. Layton sur, sp and sd.

DELTA COUNTY—F. J. Estes et al's W. S. McGee 1 (207-ac) J. G. Oliver sur, 2 mi sw Klondike, Elev 449 ft, top Georgetown lime 3305 ft, sd 3981 ft.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Herold League, 5 mi. sw Kosse , elev 521 ft., top Edwards lime 3867 ft., top upper Glen Rose 4074 ft., fsh drill pipe, td 5396 ft.

FREESTONE COUNTY—C. F. Lytle et al's Roy Simmons 1 (28.83-ac), R. B. Longbotham sur, ½ mi s Wortham, Trinity test for depleted field, rig. Stroud & Buzzard's Sneed 1, R. D. Sloan sur, 6 mi. ne Fairfield, dk.

GRAYSON COUNTY—Olson Drl. Co., Jas. H. Gardner, Broswood Oil Co. et al's D. R. Utiger 1 (160-ac), P P. Cady sur, 5 mi. nw Denison, Preston Anticline, elev. 722 ft., fsh drill pipe, td 5751 ft. in shale.

HENDERSON COUNTY—Humble, Tide Water Associated & Seaboard Oil Corp's McElreath-Suggett 1-C (149-ac), W. P. Wyche sur, 1½ mi. nw Opelika, elev 394 ft., Pecan chalk 2580-2730 ft., Austin chalk 3710-4110 ft., top Woodbine series 4137 ft., top sand 4204 ft., top Georgetown lime 4990 ft., top Paluxy series 6005 ft., top sand 6038 ft., dr 6420 ft.

HOPKINS COUNTY—Robt. D. Goodrich et al's R. A. Logan 1 (87½-ac), A. O. Wetmore sur, 1¼ mi. sw Sulphur Bluff field, cem sur cas. W. P. Chandler et al's J. M. Hargroves 1 (20-ac), G. Lincecum sur, 10 mi sw Sulphur Bluff, lcn.

HOUSTON COUNTY — American Liberty Oil Co. et al's J. A. Bean 1 (61.02-ac), Green Evans sur, nw Grapeland, elev 489 ft., top broken Pecan chalk 4623 ft., base chalk 4899 ft., Austin chalk 5614-5938 ft., top Woodbine series 6018 ft., td 6253 ft., cem 7-in cas 6112 ft., gun-perforated with 25 shots 6051-55 ft., tested heavy gas pressure. E. R. Mount, Branch et al's Dr. P. S. Griffiths 1 (136-ac), Frank Johnson sur, 3 mi. sw Crockett, sd 1740 ft. Placid Oil Co.-Shell Pet. Corp's J. E. Elliott 1 (200-ac), J. M. Procella sur, 6 mi ne Grapeland, elev 371 ft., Pecan chalk 4590-4955 ft., Austin chalk 5587-5869 ft., Woodbine sand 5872-79 ft. showed gas, high gravity oil and salt water, coring 5938 ft. Ridgeway & F. B. Jackson Jr. et al's H. F. Moore 2 (53-ac), H Masters sur, 2 mi. se Crockett, elev 337 ft, dk. C. & G. Oil Co.-Duval Williams' Ella M. Young 1 (34-ac), J. J. Thomas sur, e of Lovelady, rur.

HUNT COUNTY—Penn Oil Corp., Elmer S. & Fox Wood's A. B. Parrish 1 (200-ac), Nancy Danley sur, 7 mi ne Lone Oak, dr 1500 ft. The Texola Land Corp's J. M. Goin 1 (250-ac), Jas. Merrick sur, 2 mi sw Wolfe City, sp and sd. Stanolind O&G Co., M. J. Delaney et al's Jessie P. Hawkes 1 (110-ac), Robt. Ragsdale sur, 1 mi. w Campbell, Trinity test, mim.

KAUFMAN COUNTY—J. M. Scott & J. B. Woodside's Wood & Temple Nash 1 (80-ac), Juan Cortez sur, 1 mi e Scurry, mim.

LIMESTONE COUNTY—Pure Oil Co's W. B. Kendrick 16-T (96-ac), 3 mi w Mexia, Mexia field Trinity test, dr 1608 ft.

RED RIVER COUNTY—Carpenter Oil Corp's R. E. Anderson 1 (100-ac), S. W. Sims sur, 3 mi n Clarksville, elev 459 ft., top Red Beds 1250 ft., top Paluxy series 1845 ft., top anhydrite 2565 ft., top Glen Rose 2765 ft., sd 3019 ft.; J. M. Roberts 1 (100-ac), John Ware sur, 10 mi ne Clarksville, elev 440 ft., electrical survey showed oil saturation in Paluxy 1114-35 ft., td 1180 ft., tested water, dry and abd.

UPSHUR COUNTY — Frank Linbart & Kightlinger's F. W. Fair 1 (100-ac), H. W. Augustine sur, 4 mi se Big Sandy, sp and sd.

VAN ZANDT COUNTY — Humble O&R Co.'s L. K. Riggs 1 (74.2-ac), Wm. Daniel sur, ne edge Van field, elev 457 ft. Pecan chalk 1925-2040 ft., Austin chalk 2785-3022 ft., top Woodbine 3230 ft., top Georgetown lime 3725 ft., cem 9⅝-in cas 3818 ft., dr 3990 ft. Stroud & E. N. Lowe's P. L. McNeill 1 (104-ac), J W. Guest sur, 4 mi n Ben Wheeler, elev 510 ft., sp and sd.

WOOD COUNTY—B. F. Phillips et al's Mrs. L. E. Pritchard 1 (50-ac), T. Craddock sur, 4 mi s Winnsboro, elev 542 ft., Pecan chalk 2836-3080 ft., top Wolfe City sand 3264 ft., dr 4460 ft.

EAST TEXAS BORDER COUNTIES

CASS COUNTY—Cross Roads Oil Corp's S. A. Orr 1, G. A. Morris sur, elev 399 ft. sd 200 ft. McAlester Fuel Co's J. J. Dooley 1, Calloway Davis sur, spd. United Prod. Corp's J. W. Land 1, Robt. Potter sur, cemtd 7-in csg 6545 ft. woc td 6699 ft.

HARRISON COUNTY—H. H. Alvord's M. A. Flannagan 1, L. Womack sur, top chalk 1308 ft, wosr td 2449 ft. C. M. Bagley's J. N. Trosper 2, C. Davenport sur, pumping 16 bbls oil per day, td 2453 ft. J. N. Trosper 3, C. Davenport sur, spd woc 10-in csg 41 ft. Geyer Oil Co.'s Vincent B-2, G. P. Harrison sur, sd 2140 ft. Kennedy & Batchelor's Lane & Greer 1, J. M. Baker sur, re-acidized with 1000 gallons, pumping two bbls oil per day and 88 bbls sw, td 2364 ft. Patsan Oil Corp.'s Zion Douglas 2, S. Fields sur, top Tokio 2455 ft, 5-in csg 2454 ft, swabbing 11 bbls oil per day and 85 bbls sw, td 2512 ft.

MARION COUNTY—Ark-La. Gas Co's W. S. Ford 1, Chas. Grayson sur, elev 332 ft. still testing td 6351 ft. Laura McIntosh 1, Wm. Edmonson sur, elev 272 ft. massive anhydrite 5444-5706 ft. top Hill 5836 ft. top Gloyd 5933 ft. cemtd 7-in csg 5952 ft. swabbed dry, still swabbing slight so, td 6010 ft. may perf csg at 5933 ft. Dunn & Fisher's Susie A. Chatten 1, A. de Los Santos Coy sur, elev 247 ft, massive anhydrite 5417-5672 ft, top Hill 5899 ft, top Gloyd 5914 ft, est 50 to 75 mil ft gas daily open flow, spray distillate, si for tanks for distillate, td 5055 ft. The Hunter Co.'s E. W. Fonda 1, A. de Los Santos Coy sur, spd. Holcomb, Thomasson et al's Lizzie Henderson 1, R. Bennington sur, arr install additional chokes, td 5996 ft. old td 6405 ft. Ohio Oil Co.'s D. W. Davis 1, 2 and 3, Wm. R. Meyers sur, lcns. Mrs. J. E. Hale et al's Lizzie Henderson 1, R. Bennington sur, lcn. A. T. Freet et al's G. C. Bonham 1, Robt. Potter sur, dk. Seymore Oil Co.'s Lucas 1, A. Castleberry sur, dk.

PANOLA COUNTY—Danciger O&R Co's Tatum 1, Alfred Bissell sur, rur. R. B. Dearing et al's Wooten Est. 1, Winny Mann sur, dk. Magnolia Pet. Co's E. A. Hull 2, Thos. Applewhite sur, dr 3302 ft. Motex Oil Co's J. M. Furrh 1, Thos. M. Alstone sur, massive anhydrite 4660-4906 ft. top Travis Peak 6170 ft. dry abn td 6175 ft. shaley sand and red beds. Logansport P. L. Co's Rushing 1, Mannan Smith sur, claim so arr test td 2920 ft.

SHELBY COUNTY—Wm. Redditt et al's Pickering Lbr. Co. 1, Stephen English sur, arr deepen td 2165 ft. H. A. Stebbinger et al's Pickering Lbr. Co. 1, A. Hanson sur, elev 205 ft. fsg td 5059 ft.

SOUTH TEXAS

SAN ANTONIO DISTRICT

ATASCOSA COUNTY—Frontier Oil Co.'s Oppenheimer 1, J. Sharp sur No. 518, td 2770 ft, pb 2667 ft, bailing small oil show. Helvetia Oil Co.'s Susie Pratt 2, F. de la Garza sur, td 3460 ft, pb 2432 ft, plugged back 2432 testing. R. J. Roberts' J. M. Elder 1, D. Brister sur No. 190, dr 3150 ft.

BASTROP COUNTY—J. L. Collins Co.'s W. T. Turner 1, A. Litton sur, dr 1375 ft.

BEXAR COUNTY—Algra Oil Co.'s E. G. Peters 1, M. Gotari sur, running 645 ft 7-in csg. W. D. Bacon et al's Ida Mae Seffel 1, Joes Arocha sur, twisted off drill stem, may be top chalk, td 1775 ft. Albert Chmel's Theresa McIntosh, J. W. Garrity sur, coring 805 ft. C. E. Euton's Louis F. Ridder, Jose M. Baerrera sur, lcn. J. O. Williams' C. Hoch Est. 1, Jose M. Barrera sur, prep to resume drilling. Woodward & Hardie's R. W. Devilbiss 1, John W. Devilbiss sur, sd 2284 ft.

BLANCO COUNTY—E. L. Nixon's H. Hohenberger 2, Adolph Jonas sur, dr 890 ft.

BURLESON COUNTY—Red Bank Oil Co.'s Nellie Gramm, Santef sur, sd 2430 ft.

CALDWELL COUNTY—Blundell Oil Co.'s M. L. Luce, J. A. Neill sur, comp fsh job, td 2066 ft. J. R. Brinkley, Jr.'s Mrs. A. C. Bridges 1, Solomon Seal sur, sd 2246 ft; W. F. Trammell 1, H. Hunter sur, comp 121.5 bbls 38.1 gravity oil day. R. R. commission potential gauge pump. E. R. Cosgy's W. H. Cosby 1, Maxwell sur, dr 1200 ft. W. E. Housel et al's M. C. Driscoll 1, Robt. H. Hunter sur, dr 712 ft. Sherman Nelson's A. B. Etheridge 1, Thad Hunter sur, swabbed 3 or 4 days not enough oil for production, dr ahead to Edwards, td 1900 ft. H. F. Sackett & M. J. Keoughan's J. E. Cardwell 1, Jno. P. Bell sur, sd at 45 ft.

DIMMITT COUNTY—Porter & Connor's K. Tideman 1, S. & N. RR sur, will start dr soon. Wilcox O&G Co.'s Light Ranch 1, I&GN sur, dr 246 ft.

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EDWARDS COUNTY — Dan Auld's Mrs. Mamie Rigsby 1, GC&SF sur, dr 950 ft.

FAYETTE COUNTY—McNeil Pet. Co.'s V. Dybala 1, A. Thompson sur, abnd 4010 ft.

FRIO COUNTY—Amerada Pet. Co.'s Mrs. D. D. Harrigan 1, Salvador Flores sur, dr Taylor 5420 ft. Amerada Pet. Corp.'s Halff & Oppenheimer 8, A. Ditch Co. sur, dr 8385 ft.

GONZALES COUNTY — Canoe Creek Oil Co.s' W. L. Bolt 1, W. A. Matthews sur, wor.

GUADALUPE COUNTY—Blackmer et al's Cora and J. E. Mackey 1, James Hodges sur, lcn. R. B. Byrd's Lizzie Schueneman 1, Green Dewitt sur, d and a at 2595 ft. J. E. Clark's T. C. Anderson 1, Robt. Hall sur, dr 1800 ft. Diamond Half Oil Co.'s E. Bibbs et al 1, Joel W. Robinson sur, cored 4397-4407 ft, soft spot in Glenrose but no show. Nick Marosis et al's William Maierhofer 1, L. A. Peters sur, still sd at 2175 ft. Dave T. Mulholland's T. W. Jahns 1, J. K. Davis sur, wo Dobbs well prep to begin by 1st. Kenedy & Crowley's Gus Jahns 1, will ship csg, td 2507 ft. Riddle Oil Co.'s Ned Herff 1, Eligio Gotari sur, coring 2200 ft. W. J. Walton et al's P. K. Delany 1, Jesus Cantu sur, sd 2215 ft.

KERR COUNTY—S. W. Forrester's J. W. Bailey 1, A. L. Starky sur, sh, ur to 945 ft, landed 8-in on bottom, lost bit in cavey hole, will drill past bit.

LEE COUNTY — James S. Pederson's C. A. Turner 1, David Hudson sur, swabbed down small amount of oil.

MEDINA COUNTY—C. J. Webster O&G Co.'s Wm. H. Wiemers 1, Joseph Haley sur, wo water.

MILAM COUNTY—Alex Krause et al's J. F. Bartek 1, Josea de Pens sur, dr 1175 ft.

REAL COUNTY—Sun Oil Co.'s Dietert & Oppenheimer 1, G.W.T.&P. RR sur, running protection string, td 5690 ft.

ZAVALLA COUNTY—H. F. Wilcox's T. J. Gillam 1, GWT&T Ry sur, dr 2670 ft.

CORPUS CHRISTI DISTRICT

ARANSAS COUNTY—Barnsdall Oil Co.'s Kate Edwards 1-A, Wm. Lewis sur, dr 6463 ft. W. J. Collins & Broughton Wilderson's McCampbell Ranch 1, McCampbell subd, stdg after showing sw & gas, td 6560 ft.

BEE COUNTY—Dirks Bros.' T. Strauch 2, J. M. Uranga gr, set csg without making dst, no details, 2 dst failed. Lonnie Glasscock's J. B. Ablinger 1, John Ryan sur, dr 4255 ft. W. D. Walton et al's A. M. Holzmark 1, J. A. York sur, set sur csg.

BROOKS COUNTY — Standard Oil Co. of Texas' Mestina O&G Co. 1, Salinas sur, set 13⅜-in csg, woc, td 1383 ft.

CALHOUN COUNTY—Hiawatha Oil Co.'s (Benedum & Trees) John Roemer Est. 1, J. J. Ogsberry sur, prep to deepen to 10,000 ft, td 8378 ft.

CAMERON COUNTY—Stapper Pet. Corp.'s Port Isabell I. R.R. Co. 1, Espirito Santo go, sd, cleaning boilers, td 6178 ft.

GOLIAD COUNTY—Goliad Oil Co.'s S. E. Cole 1, Goliad Town gr, mim.

HIDALGO COUNTY—Gulf States Oil Co.'s John Engelman 3, Las Mestinas gr, still testing 6690-93 ft, td 8110 ft. Sterling O&R Corp.'s John C. Engelman 1, MTL&I Co. sub, dr 7990 ft.

JACKSON COUNTY—Cockburn Oil and T. Hargrove's Santa Theresa Farms 1, I&GN sur, mim. Shell Pet. Co.'s T. N. Mauritz 1, O. S. York sur, tested sw perf 5657-58 ft, testing through perf 5645-47 ft, td 5704 ft. The Texas Co.'s T. N. Mauritz 1, Morris & Cummings sur, testing 5112 ft.

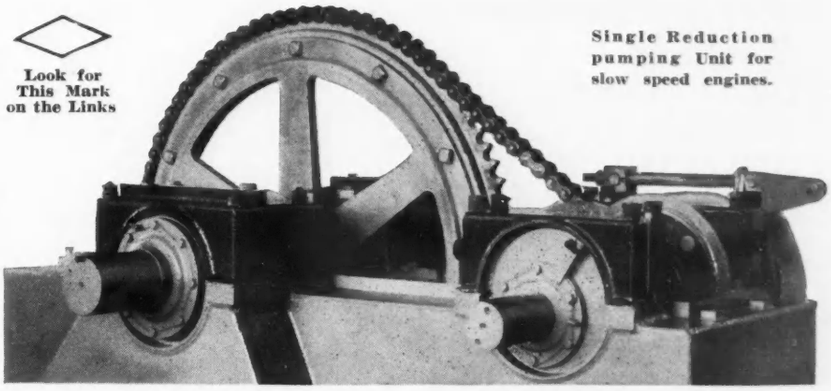
JIM WELLS COUNTY — Baltic Drilling Co.'s B. W. Owens 1-A, Poitevent sur, abnd at 6018 ft. Tom Graham's James P. Luby Est. 2, Los Presnos de Abajo gr, pb to 4000 ft and tested & showed nothing, td 5793 ft. La Jita Corp.'s J. W. Bird 1, Los Presenos de Abajo gr, lcn. Tsesmelis & Reese's Martha Earhart 1, John Suggs sur, coring in sand and shale, td 2300 ft.

LIVE OAK COUNTY—Loma Oil Co.'s L. C. Anderson 1, J. Turner sur, sp 4-4-37. F. D. Slater's J. W. Griffith 1, I. D. Osborne sur, sp in 4-4-37. L. W. Stieren's F. Lange 1, T. Adams sur, abnd 1700 ft

NUECES COUNTY—I. J. Allen and Seaboard Pet. Co.'s J. O. Chapman et al 3, Ramon de Ynojosa gr, dr plugs 5056 ft; J. O. Chapman et al 1-B, Ramon de Ynojosa gr, prep core 4800 ft. Camp Prod. Co.'s C. Phillip Wardner 1, Charles E. Stratton subd, dr 6100 ft. Lonnie Glasscock's Kansas Life Insurance Co. 1, Luciano Rivers sur, mim. E. M. Jones' Lucy Cooke 1, Quadrilla Irrigation Co. sur, abnd 7424 ft. Shell Pet. Co.'s State of Texas 1, Laguna Madre Bay sur, driving piling. Sloan-Harvey & Green River Oil Co.'s Eno Cassens 1, Antonio Longorio gr, dk. Southern Minerals Corp.'s Richard King 1, King Farm Lots, reaming in prep to core ahead 5462 ft. Taylor Pet. Co.'s J. V. Styles 1, Rowsey subd, dk & pits. United Prod. Corp.'s W. H. Harvey 1, Garcia sur, dr 7646 ft. Wellington Oil Co. and Seaboard Oil Corp.'s L. M. Duggar 1, H. Pauls subd, spud in.

REFUGIO COUNTY — Wynne Drlg. Co.'s

Look for This Mark on the Links



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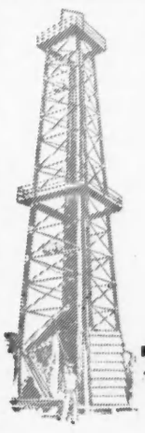

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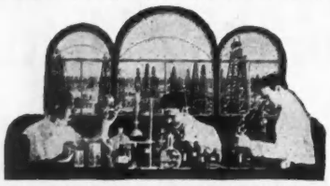
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Mrs. C. D. Roache 1, John Patrick, Thomas and Jas. Downey sur, coring 6062 ft.

SAN PATRICIO COUNTY — Eleanor Oil Co.'s J. F. Green Est. 1, T. T. Williamson sur, coring 7200 ft. Phillips Pet. Co.'s Henry Schmidt 1, Coleman-Fulton Pasture Co. lands, dr hard formation at 6600 ft. Wheelock & Collins' Inez Willis 1, Gregory subd, sp. Commonwealth O&G Co.'s W. H. Bennett 3, J. E. Galban sur, dr out plugs prep to perf, td 5476 ft.

VICTORIA COUNTY — Union Oil Co. of Calif.'s Claude A. Keeran 3, M. de Leon sur, dst open 1 hr and 50 min, ½ and ⅝-in chokes after 30 min started flowing at rate of 22 bbls hr, 450 lbs wp, prep set screen sand from 5695-5704 ft.

WILLACY COUNTY—Ruez-Morton, Inc.'s Francisco Armendia 1, San Juan de Carricitos gr, dk; Johnson-Stillman 1, San Juan de Carricitos gr, prep redr 650 ft. Shell Pet. Co.'s Yturria Lnd & C Co. 1, La Sal Viejo prospect, dr hard shale 8476 ft.

LAREDO DISTRICT

DUVAL COUNTY—Atlantic Ref. Co.'s W. A. Lowe 1, sur 466, dr 3000 ft. A. J. Brinkoeter's P. Garza de Rodrigues, near Seven Sisters prod, Loma Novia sand 2646-56 ft, setting csg. Clark & Cowden Drlg. Corp.'s J. M. Richardson 3, near Kohler field, ru. Diamond Half Oil Co.'s J. F. Sinclair 1, Elizabeth Gravis sur, sd to lay water lines 1146 ft. Frank Gravis' F. Vaello Puig 1, San Andres gr, closed well, no information. C. K. Gravis, Jr.'s Christian Holzapfel 1, J. Poitevent sur, abnd 2539 ft. H. F. Grimm's Elizabeth Mew 1, sur 289, dr 1500 ft. Henshaw Brothers' W. H. McGriffin 1, sur 230, ru. Hiawatha O&G Co.'s Southland Life Insurance Co. 2, Ball Ranch sub, dr 1050 ft. Kepley Prod. Co.'s Clara Driscoll Sevier 2, sur 71, lcn. Magnolia Pet. Co.'s S. Benavides 23, O'Hern & Seaboard sub, dr rock, dst 2688-93 ft, 500 ft sw, 20 ft oily mud ⅜-in ch top and bottom, td 2876 ft. Penn-Palangana Oil Co. et al's C. K. Gravis 1, Gravis Palangana prod, ru. The Texas Co.'s DCRC 2-C, sur 194, sand 2098-2103 ft, sw, abnd 2169 ft. E. R. Thomas et al's Atlee Parr 1, E. H. Valentine sur, coring ahead, dst 3952-72 ft, 5 min rec 2 joints oil and 100 ft sw with 225 lbs pres, dst 3964-72 ft rec 20 ft oil and 300 ft mud and sw, 250 lbs pres, sands 3962-64 ft, 3966-72 ft. George V. Viteri et al's Emilio E. Cadena 1, J. M. Hinojosa gr, mim. W. H. Wollett & M. D. Mastin's Bishop Cattle Co. 1, n or Hoffman, lcn.

JIM HOGG COUNTY — Cole Pet. Co.'s Yeager Ranch 1, sur 452, ru. Gifford Oil Co. & Locke Purnell's E. L. Armstrong 1, sur 43, junked and abnd; E. L. Armstrong 2, sur 42, dr 300 ft.

McMULLEN COUNTY — Big Rock Oil Corp.'s Henry R. Martin 1, Emil N. Weiting sur, sd 525 ft. H. K. Boysen's J. E. Murphy 1, J. E. Murphy sur, dr 400 ft. Howell Oil Co.'s J. H. Martin Hrs. 1, sur 213, will redr. Humble O&R Co.'s R. B. Swiger (Henry Gouger) 1, A.B.&M. sur, coring 2838 ft. Edwin M. Jones' Harry Ezzell 3, Thos. Adams sur, mim. Reynolds & Richardson et al's Shiner Ranch 2, Shumway subd, dr 1600 ft.

STARR COUNTY—John H. Clopton et al's Green 1, J. of Carmargo, 5,000,000 cu ft gas, 425 lbs pr, shows sw, td 4620 ft. John H. Clopton et al's Dionicio Tijerina 4, share 14-C, por 80, dr 1435 ft. Cook, Maris, Arnold's Starr County Cattle Co. 2, Cook, Maris, Arnold sur, sp 4-3-37. Dandrey Oil Co.'s 1, Cayetano Ramos sur 150, running csg to test sand 1280 ft. G. E. Dodd's (Holland Wood) B. D. Wood Est. 1, por 84, Camargo juris, recompleted after cementing 6-in csg at 600 ft, flowing 200 bpd ⅜-in ch, tp 200, cp 150, td 1754 ft. Glen Harroun et al's V. C. Guerra 1, Frank R. Campbell sub, dr 2100 ft. K. E. Merren's Starr County Co. 1, Jeffries Lambeth sub, distillate and gas heavy pres drill stem stuck, trying to get circulation, td 5381½ ft. Moss & Heard's S. B. Ricaby 3, por 83 J. of Camargo, making 12 bpd ¼-in choke, tp 225 cp 450. F. P. Schwab & Fred Foster's Antioco Munoz et al 1, Javali gr, lcn. Transwestern Oil Co. et al's T. B. Slock Est. 2, sec 527, dr 2000 ft.

WEBB COUNTY—Mills Bennett Prod. Co.'s M. D. Slator 2, Slator Ranch, ru. W. C. Billings' Fee 1, sur 2, dr 150 ft. Bolling & Coffey's A. Villareal, pits & wor. Eugene Garner, Jr.'s R. Saldivar 1, sur 657, sand 1001-06 ft, oil show dst 1001-06, dev 2 joints mud 25 min, prep set csg. O. W. Killam's Laurell Bros. 1, sur 333, dr 1238 ft. Lutex Oil Co.'s Lone Star Con. Co., SS&B sub, dr 1875 ft. J. W. Magee's E. Garcia 1, Henry James subd, ru. Ohio Fuel Oil Co.'s DCRC 2, sur 100, lcn.

ZAPATA COUNTY — W. C. Bob's J. M. Martinez 2, W. R. Duke sub, sd 672 ft. Dan Auld et al's (Fidelity Oil & Royalty Co.) Gopher Trust Est. 1, J. W. Fullerton sub, sur 6, ran electric formation tester, abnd 1335 ft. H. Q. Lewis' S. Benavides 1, Fansler & O'Hern sub, coring 834 ft. Magnolia Pet. Co.'s Gonzales-Cuellar 1, Cuellar tr, Cerrito Blanco gr, 8,000,000 cu ft gas 1116 ft. Randolph Wheeless' Mrs. S. Welsh 1, E. K. Bateman sub, coring 1400 ft. The Zapata Corp.'s Justina Garcia et al 1, Comitas gr, coring 1220 ft.

TEXAS GULF COAST

BRAZORIA COUNTY—Pure's L. M. Slade 1, Peach Point prospect, S. F. Austin sur, abst 20, dr shale 6497 ft.

BRAZOS COUNTY — Francis Stone Oil Co.'s Graham 1, s of College Station, R. Stevenson nur, dr shale 2135 ft.

CHAMBERS COUNTY—Sun's White 1-B, Seabreeze area, Wm. Mays sur, reaming 9637 ft.

FT. BEND COUNTY—Research Inc.'s J. M. Moore 1, ne of Orchard, S. Kennedy sur, dr shale 448 ft.

HARRIS COUNTY — Hamil & Smith's Zappe 1, Bammel area, J. Farwell sur, testing 6211 ft. Stanolind's Oates 1, Clinton field, C. Martinez sur, coring 8776 ft; same operator's Warren Minerals 1, Hockley dome, H&TB sur No. 1, abn 6685 ft. Texas Gulf Producing Co.'s Gillespie 1, Aldine prospect, S. Contrereas sur, testing 7100 ft. H. M. Harrell & O. L. Brace's Bullock 1, Ogburn area, C. Bowman sur, coring shale 5388 ft.

JEFFERSON COUNTY—David B. MacDaniel's Nona Mills 1, Gilbert Ranch prospect, J. G. Grant sur, coring 7036 ft. Magnolia's Phelan 1, sw of Amelia, Cheek area, S. Stivers sur, dr shale 3018 ft. Humble's Jefferson Land Co. 1, Cheek prospect, C. Hillibrand sur, showed salt water 7835 ft.

MATAGORDA COUNTY — Continental's Robbins 2, Citrus Grove prospect, C. Franz sur, dr plugs 8912 ft. Glenn H. McCarthy's J. Croker 1, Foley 1, Palacios prospect, L. Goodwin sur, making oil and salt water 7895 ft. Sun's Craig 2, Hawkinsville dome, J. Williams sur, dr shale 4953 ft. United North & South Development Co., Stodard 1, sw of Buckeye, Cotton sur, coring shale 9070 ft.

POLK COUNTY—Mayo et al's C. Mayes 1, w of Segno, J. G. Loving sur, dr shale 2105 ft.

TYLER COUNTY—Republic's Hurd 2, near Spurger field, N. Hurd sur, dr shale 6418 ft.

WALLER COUNTY—N. Blumenthal's A. Kelly 1, ne of Hempstead, S. Hardin sur, dr shale 3108 ft.

WASHINGTON COUNTY—Sun's Lauter 1, Clay Creek area, N. Clay sur, abn 8306 ft.

WHARTON COUNTY—J. E. Hutchins J. J. Wensley 1, near Shell's Seydler 1, J. Tumlinson sur, coring 4729 ft. Texas Co.'s Kluck 1, Blue Basin prospect, J. Hyland sur, woc 4654 ft.

WYOMING

CAMPBELL COUNTY—G. J. Sherin et al's Rhodes 1, ne se sw 24-49n-74w, dr 413 ft.

CONVERSE COUNTY—Chadron-Osage Oil Co.'s State 1, sw sw sw 16-32n-69w, dr 3200 ft with some sg. Wyoming Southern Oil Co.'s Jennei Evert 1, nwc n sw 26-32n-69w, mim. Wyoming Southern's Salisbury 2, nec nw se 17-32n-69w, dr 269 ft.

NIOBRARA COUNTY—Riggs Drilling Co.'s A. A. Spaugh 1, se sw sw 32-34n-65w, dr 3200 ft.

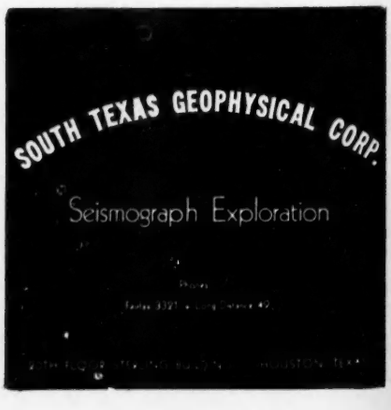
PARK COUNTY—General Petroleum Corporation's Government 1, nw nw nw 33-47n-100w, coring at 5820 ft in Embar lime.

UTAH

GRAND COUNTY—Columbia Crude Corporation's Rath-Government 1, ne sw 12-25s-20e, dr 2132 ft. Utah Southern Oil Co.'s Hyde-Government 1, s nw nw 32-22s-20e, dr 6175 ft.

Threading Records

The Landis Machine Company, Waynesboro, Pa., has available for free distribution an interesting check book that makes available to users of thread cutting and tapping equipment reliable costs and production data. The costs are based on records supplied by customers.



NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Catalogs • Books

TOOL BOX
Bridgeport Machine Company

Bridgeport Machine Company, Wichita, Kansas, is offering a steel tool box that was designed to withstand the rough handling usually received in the oil field. The box is constructed of heavy gauge steel plate, substantially braced in the center and reinforced with heavy angle iron. The top is reinforced at front and ends with box type angle iron to prevent denting and distortion.

Bridgeport Tool Box

The shelf or supply bin is 12 inches wide and 4 inches deep, is made of heavy gauge plate, and extends the full length of the box. The lid is attached by three heavy, electric welded, tamperproof hinges, and is flanged down to keep out water and dirt. The box is electric welded to 4½-inch pipe skids. The outside is finished with a coat of metal enamel and the inside is finished with rust-proof aluminum paint. The box is 3 feet high, 3 feet wide and 8 feet long, and the weight is 1316 pounds.

HEAVY DUTY TRUCK DRIVE
Thornton Tandem Company

Thornton Tandem Company, Detroit, Michigan, has announced a heavy-duty "four-rear-wheel-drive" truck for Ford and Chevrolet trucks. When built into either of these trucks, the unit provides a wide range of power for all uses.

The Thornton transmission, in conjunction with the standard truck transmission, supplies eight forward speeds with a final gear ratio of 87 to 1. This gives a tremendous rim pull, the manufacturer states. The 8 rear tires provide the floatation that is necessary for the off-the-road operation through sand, mud, ice and snow.

The "walking beam" spring assembly permits the wheels of the unit to rise and fall individually as they encounter bumps and depressions, providing constant traction and a sharp reduction in the load sway. The drive is so engineered into the truck chassis as to prevent over-strain on the truck members. Frame channels 7½ inches deep that completely envelop the original truck frame extend 40 inches under the cab. The manufacturers claim that the operation of the truck is much less than that of a conventional 9-ton truck.

The unit has proved particularly adaptable for hauling heavy boilers, compressors and drilling equipment, and for pipe line work where maximum traction is required.

CHEMICAL FEEDER
Black, Sivalls & Bryson

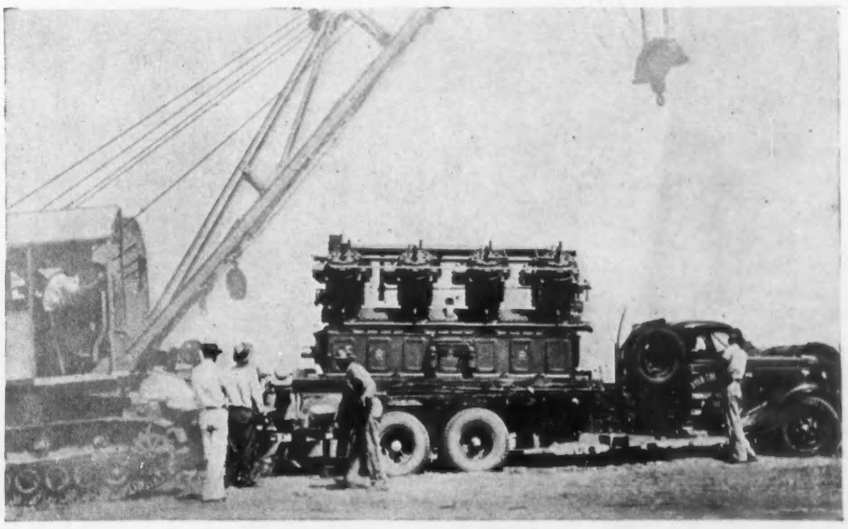
Black, Sivalls and Bryson, Oklahoma City, Oklahoma, recently announced an automatic chemical feeder. This gas powered unit was designed for injecting treating chemicals at high pressures into flow lines carrying emulsified crudes. One of the outstanding features of this new chemical feeder is that it will inject chemical against the highest known operating pressures with only 20 or 25 pounds per square inch gas power. The power for driving is derived from the energy stored up through putting gas into a large expanding diaphragm, and diverting that travel of expansion directly to a small diameter plunger. This feeder is easily connected, operates on low lease gas pressure for power, has no rotating parts, requires no lubrication, and it is a sharp deviation from the conventional gas turbine heretofore used as a source of power for driving chemical feeders where no power other than gas pressure was available. This new automatic feeder has a wide range of volumetric delivery, it being capable of delivering as little as ½ pint per 24 hours, to as high as 20 gallons per 24 hours. Gas consumption is very low, requiring only 380 cubic feet of gas at 20 pounds per square inch to pump one gallon of chemical with ⅜-inch plunger.

This new feeder is a self-contained unit in that the pump and motivating diaphragm and a 10-gallon chemical reservoir are all built into one unit,

B. S. & B. Chemical Feeder

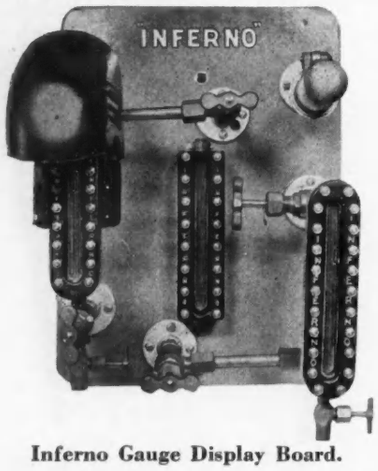
which may be mounted on any convenient vertical piping of 2-inch, 3-inch or 4-inch size, and is also equipped with three pipe legs in case it is desired to locate the feeder on a platform or separator foundation.

The chemical reservoir is made with flanged and dished heads to permit building up gas pressure in the reservoir to force heavy viscous treating chemicals into the pump suction when atmospheric temperatures so affect the chemical as to render it no longer fluid. In case the operator desires to pump diluted chemical, this feeder is equipped with a small mixing device which permits injecting gas into the base of the



Thornton Transmission Equipped Truck

reservoir to produce agitation within the reservoir to keep chemicals mixed with a diluting medium even though the chemical is not soluble in the diluent. This has proved satisfactory in keeping insoluble chemicals well dispersed throughout diluting media.



Inferno Gauge Display Board.

Gauge Display Board Put Out By The Inferno Company

The Inferno Company, Shreveport, Louisiana, announces a new gauge display board for oil field supply stores.

This new board is 18 x 21 inches, finished in a brilliant red, with aluminum trim. On the board is displayed the recommended hook-up for the Inferno "Regular Type" and "Special Type" Reflex Gauges, using Inferno Stainless Valves and fittings and a weatherproof shade. The "Refinery Type" Gauge and the new Inferno Gauge Cock are also included on the board.

The material used on the board may be used for actual installations. The display board is issued gratis to supply stores, and may be fitted from their stock.

This Week with the Industry's EQUIPMENT SUPPLIERS

Walton New Director For Emsco Derrick

George W. "Jack" Walton, recently transferred from the Dallas office to the home office of the Emsco Derrick & Equipment Company in Los Angeles, has been elected to the board of directors of the company. He will continue as sales manager, Mid-Continent machinery division, and will work with the engineering department on new developments particularly pertaining to the Mid-Continent, spending a portion of his time in the Los Angeles office and the rest in Mid-Continent fields.

Walton joined Emsco 10 years ago as district manager of the machinery and derrick division, being stationed in Tulsa. After four years he was transferred to the Dallas office of the company, where he has remained until his recent move.

Mission Manufacturing Company Enlarges Heat Treating Plant

Mission Manufacturing Company, Houston, has completed an enlargement to its heat treating plant. Although the main plant was constructed only 18 monts ago with the most modern equipment, the new addition was necessary to keep pace with the increasing demands for the company's products.

The new furnaces were especially designed for the manufacture of file-hard piston rods to the company's standards. In addition it was necessary to install a cooling tower and a completely re-

GEORGE W. WALTON
Goes to Los Angeles as new Emsco director.

designed quenching oil system. A 50 per cent increase in building area was needed to accommodate the new heat treating equipment. All gas-fired and electric heat-treating furnaces in the plant are controlled by electric recording thermocouple pyrometers.

Bruce E. Gold Sales Engineer for Atlas Supply

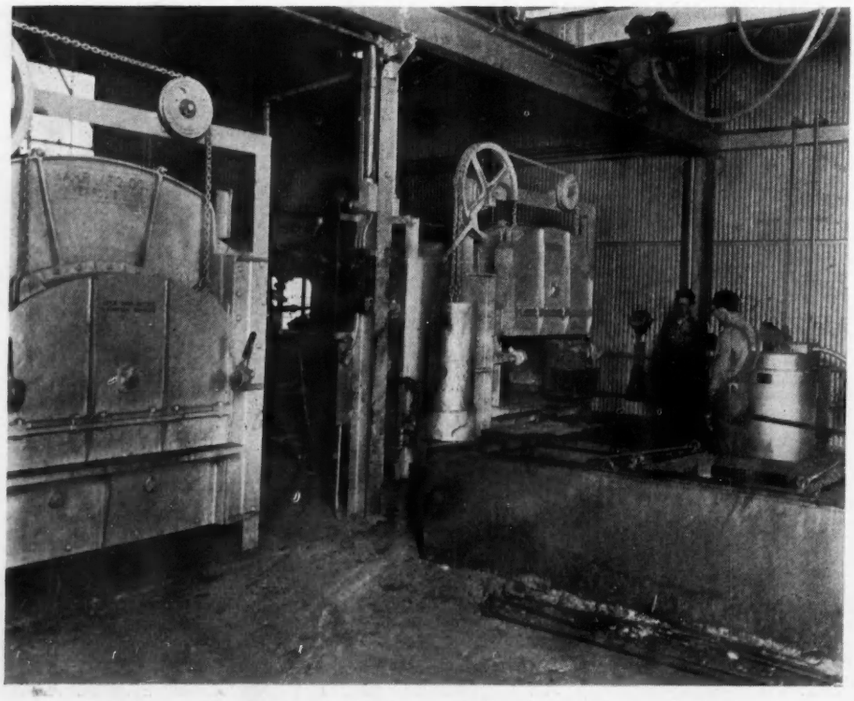
Bruce E. Gold, lately with Caterpillar Tractor Company at Peoria, Illinois, has become sales engineer for Atlas Supply Company in Tulsa. Prior to Working with the Peoria concern, Bruce was employed by Weber Engine Company at Kansas City. He was made assistant chief engineer of the company in 1930, and continued in that capacity until October 1, 1936.

Franks Manufacturing Company Holds Plant Demonstration

Oil executives, purchasers and automotive leaders were the guests of the Franks Manufacturing Corporation April 9, at the company plant on the Dawson road, near Tulsa. The program, beginning at 3:00 p.m., featured a special oil unit, capable of drilling to 3000 feet, of rotary type and truck-mounted, was making hole in the front yard of the plant.

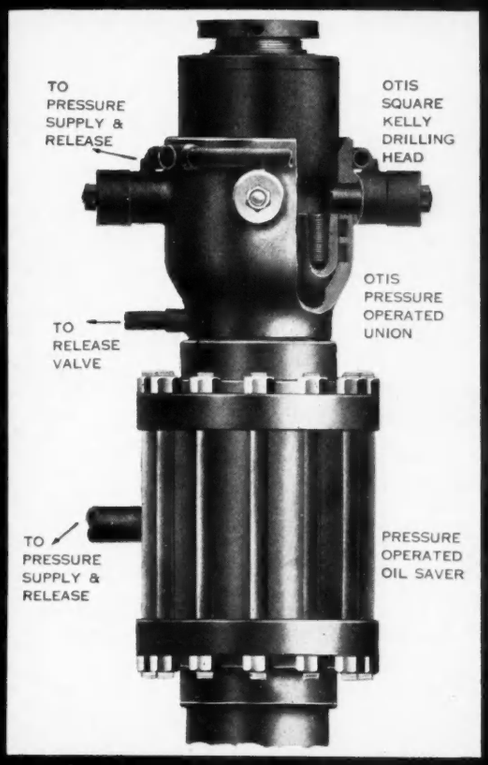
Hard Facing Shown in New Moving Picture

A new motion picture on hard-facing which shows, in detail, the process of adding wear-resisting surfaces to steel parts, is now available for showing to interested organizations or groups. This highly instructive motion picture has been produced by Haynes Stellite Company, a unit of Union Carbide and Carbon Corporation and can be obtained for showings through representatives of



Mission Manufacturing Company has increased heat-treating facilities at its Houston plant.

NO MORE TRIPS TO THE CELLAR *—while drilling in*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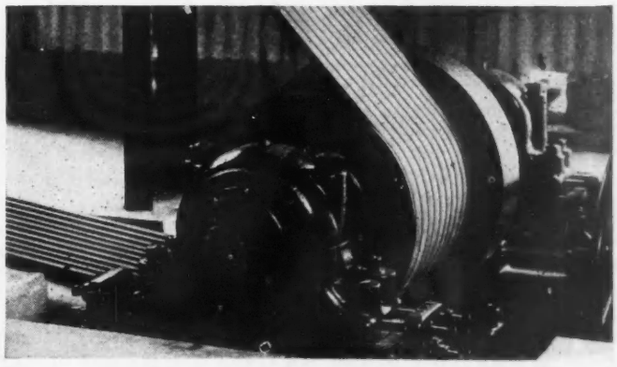

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This close coupled valve has an advantage over the regular cast steel valves offered for boiler service. 3" and 4" sizes suitable for 300-pound steam working pressure, with screwed or flanged ends, are carried in our Houston stock . . . also for 400-pound steam working pressure with flanged ends.

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Phone P-3135 L.D.-409

Jensen Brothers Has Stock on West Coast

A. V. Turner has been named sales representative in California for Jensen Brothers Manufacturing Company of

A. V. TURNER
Selling Jensen Pumping Equipment in California

Coffeyville, Kansas. Turner is making his headquarters at Bakersfield and the company is maintaining there a warehouse with adequate stocks of pumping equipment to serve the West Coast.

New Stores and Office For International Supply

International Supply Company announces the establishment of a branch office at Wichita, Kansas, and two new field stores at Great Bend, Kansas, and Odessa, Texas.

The Wichita office is managed by R. L. Neal, district manager. R. T. Cheney is manager of the Great Bend store and G. E. "Burt" Ponder is in charge of the Odessa store, which is under the supervision of W. A. Chaney, district manager at Midland, Texas.

Bullard Expands In Mid-West and On Coast

April 1 the Chicago office of E. D. Bullard Company moved to 133 N. Sacramento Boulevard, to obtain increased space and improved facilities for handling a larger stock of safety equipment.

At the same time, the San Francisco factory of the company doubled its floor space to permit the installation of new machinery.

Skeets O'Melveny Heads New Patterson-Ballagh Office

Patterson-Ballagh Corporation, Ltd., has opened a Gulf Coast and Mid-Continent office and warehouse at 1507 Maury Street, Houston, Texas. J. M. "Skeets" O'Melveny is in charge of the new office.

General Electric Opens Display of Products

An exhibit of electrical products for industry has been opened in the General Electric Building, 570 Lexington Avenue, New York. It brings together, in 7000 square feet of floor space, a complete line of representative products of General Electric and affiliates.

Advanced Welding Course To Be Held at Pittsburgh

Engineers, designers, architects, production managers, welding supervisors, foremen and operators, and other individuals from industrial concerns of Pittsburgh and environs interested in welding, will have an opportunity to obtain advanced instruction in the practical and theoretical aspects of arc welding the week of April 19. This opportunity is offered by a special course in arc welding design and practice sponsored by The Lincoln Electric Company, Cleveland, Ohio. The course will begin Monday, April 19, and last through Friday, April 23. Meetings will be held at the Clifford B. Connelly Trade School Auditorium, 1500 Bedford Avenue, Pittsburgh. The course will be under the direction of E. W. P. Smith, nationally known welding authority of Cleveland, Ohio.

The primary object of the 5-day course is to provide engineers and designers in the Pittsburgh area the opportunity of studying the design of products and structures for arc welded construction. The course will include lectures and technical papers by prominent authorities on welded design and construction in their respective fields, and free consultation service on welding engineering problems.

Venable West Texas Representative for Inferno

The Inferno Company of Shreveport, Louisiana, announces the appointment of Ben T. Venable as West Texas representative. Venable has been connected with the Shell Petroleum Company in East Texas, and the Eldorado Lumber Company in South Arkansas and East Texas.

BEN T. VENABLE
New West Texas Representative for Inferno

CATALOGS...BULLETINS

Helpful Publications Which Manufacturers Will Be Glad to Send Free for the Asking

Mechanical Flow Meter

Cochrane Corporation, Philadelphia, Pennsylvania, announces availablity of Bulletin No. 2094, a 16-page booklet devoted to description of a high torque, mechanical flow meter which contains no float, no electrical contacts, no magnets and no bearings or moving parts in the pressure chambers.

Centrifugal Pumps

Goulds Pumps, Inc., are distributing an attractive and complete new bulletin describing its "Close-Cupld" Centrifugal Pumps. Twenty-one sizes of these pumps give an exceptionally wide range of capacities and heads: 5 to 1600 G.P.M.—up to 525 ft. The bulletin gives complete information on ratings, construction, specifications, dimensions, etc. To secure a copy write direct to Goulds Pumps, Inc., Seneca Falls, New York, and ask for Bulletin No. 208.

Weight Indicator

Martin-Decker Corporation, Long Beach, California, has just issued a folder on its new Clipper model weight indicator. This new instrument is the latest advancement in weight indicator design and is made to meet the ever-increasing demands of modern drilling for accuracy, strength, sensitivity and flexibility.

Pipe Joint Clamp

M. B. Skinner Company, South Bend, Indiana, has available a bulletin describing its new pipe joint clamp, a specialty for permanently stopping leaks in pipes without interruption of service.

Alloy Metals

Metal Goods Corporation, Houston and New Orleans, recently issued a bulletin describing its stock of monel and nickel alloys. The bulletin gives a short treatise on alloy metals.

Diesel Power Units

Fairbanks, Morse and Company, Chicago, has issued a bulletin, No. 3600-A1, describing its Model 36 Diesel power unit, which is offered in two cylinder sizes and in various combinations. The bulletin will be mailed to interested persons upon request.

Nickel Alloys

The International Nickel Company, New York City, has ready for mailing an educational 48-page booklet describing the many uses of nickel alloys. The booklet is well illustrated.

Switchgear

Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pennsylvania, recently issued a bulletin on the cubicle type switchgear for indoor service with manually or electrically operated breakers.

Temperature Instrument

Leeds and Northrup Company, Philadelphia, has designed a novel and attractive advertising piece that shows an exact likeness of its latest Micromax recorder. The door may be swung open, the chart carriage swung out, and finally the entire mechanism swings into view. The folder is ready for distribution.

Protectors

Patterson-Ballagh Corporation, Los Angeles, California, recently isued an interesting eight-page bulletin describing its drili pipe and casing protectors.

Electric Lanterns

Economy Electric Lantern Company, Chicago, has ready for distribution two leaflets describing its small portable electric safety lantern, and electric flares for truck and bus emergency signals. Full details and advantages are listed.

Tractors

International Harvester Company, Chicago, recently issued an interesting booklet describing the precision with which its crawler type tractors are manufactured. The booklet, No. A-75-AA, is ready for free distribution.

Data on Oxidation

The Timken Roller Bearing Company, Canton, Ohio, has ready for distribution technical bulletin No. 10, which presents a series of data on oxidation at 1000°F., 1250°F. and 1500°F. on 13 different steels.

Blowout Preventer Tester

Texas Rubber and Specialty Corporation, Houston, Texas, recently issued an attractive bulletin on its "Okeh" blowout preventer tester.

Sand Pump

Oil Well Supply Company, Dallas, Texas, has issued bulletin No. 170, describing the "Superior" sand pump it manufactures. Full construction and operating data are given.

Welding Electrodes

American Chain and Cable Company, Bridgeport, Connecticut, has ready for distribution bulletin No. DH-984, describing the Page Hi-Tensile F. Electrodes it manufactures.

Pipe Couplings

Victaulic Company of America, New York City, recently published catalog No. 37-3, describing its line of Victaulic pipe couplings and fittings.

Power Pumps

Fairbanks, Morse and Company, Chicago, has available for distribution bulletin No. 6165, describing its duplex self-oiling power pumps for handling mud and slush in connection with rotary drilling rigs, and clear water and petroleum products.

Cast Iron Corrosion

The International Nickel Company, New York City, has available for free distribution a reprinted paper on "Some Consequences of Graphitic Corrosion of Cast Iron", by W. A. Wesley, H. R. Copson and F. L. Laque. The paper deals with the mechanism of a type of corrosion of cast iron that results in the formation of a surface layer of residual graphite.

Oil Well Supplies

Norris Brothers, Inc., Robinson, Illinois, recently issued an attractive 32-page catalog that illustrates and describes its full line of oil well supplies. The catalog is available for free distribution.

Wrenches

J. H. Williams & Co., 75 Spring St., New York City, has announced the publication of two new booklets which will interest users of industrial wrenches. Booklet A-409 illustrates and describes the line of "Supersocket" wrenches (detachable sockets); "Super-renches" (chrome-molybdenum); "Superector," a new, heavy-duty, reversible ratchet wrench; "Non-Sparking" safety wrenches (beryllium-copper); and two recently announced lines of adjustable wrenches. Booklet A-81 describes the full drop-forged carbon steel wrench line. "Bull Dog" types and screw wrenches are also included. This booklet also lists "Superector," adjustable wrenches, and non-sparking safety wrenches.

Electrode Holder

Lincoln Electric Company, Cleveland, Ohio, has ready for free distribution bulletin No. 321 describing its Type T electrode holder.

Diesel Engines

Cummins Engine Company, Columbus, Indiana, recently issued a very attractive publication, "The Dependable Diesel," which will be mailed to interested persons. The large magazine features the various applications of Diesel engines to industrial efforts, including interesting uses in the oil fields.

Sheet Metal

Republic Steel Corporation, Cleveland, Ohio, has available for free distribution an attractive bulletin describing the use of its Toncan iron in sheet metal construction.

Lubrication

Bijur Lubricating Corporation, Long Island, New York, recently issued an attractive bulletin describing and illustrating its automatic lubricating system. The bulletin gives data on various types of industrial applications.

Special Trucks

The Four Wheel Drive Auto Company, Clintonville, Wisconsin, recently issued an interesting booklet, "Stirring Examples of Four Wheel Drive Trucks in Action," a reprint of a paper by C. P. Parsons, vice president of Halliburton Oil Well Cementing Company.

Industrial Packing

In order to insure the most efficient application of industrial packings to the specific purposes for which they were designed, United States Rubber Products, Inc., has issued a 112-page manual on the subject. The manual, one of the most complete compiled for use by chemical, mining and petroleum engineers, plant operators and executives in these industries, has required the efforts of many engineers and technicians in its preparation.

United States Rubber Products, Inc., first began experimenting in this field in 1856, about 90 years after James Watt first used packing around the pistons of his original steam engine. It is only during the last 20 years, however, that packings have been fully recognized as an important phase of industrial engineering. Because of the variety of materials handled in modern industry, these packings of necessity have become highly specialized.

This comprehensive manual is to assist engineers in properly adapting the various "U.S." packings to their specific needs. It gives complete engineering data indicating the various characteristics of each packing. Several special sections are devoted to recommendation charts. A special 12-page engineering section is devoted exclusively to charts listing specific gravities, the temperature of steam at different pressures, Fahrenheit - Centigrade conversion table, metric conversion table, melting points of materials and their weights, and other useful data.

The 12 specially indexed and cross-indexed departments include sheet packings, gaskets, rod and plunger packings, hydraulic packings, flax and jute, locomotive and special oil well rotary drilling packings, pump valves, and miscellaneous packings and engineering sections.

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Please send me, without obligation, free booklet described in April 12, 1937, issue of THE OIL WEEKLY.

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Squeaks from the Bull Wheel

Champion Chewer

A city girl visiting her uncle on the farm was watching a cow chewing her cud.

"Pretty fine cow, that," said her uncle as he passed by.

"Yes," said the girl, "but doesn't it cost a lot to keep her in chewing gum?"

The Hard Part of It

Father: "Isn't it wonderful how little chicks get out of their shells?"

Son: "Yeah, but what gets me is how they get in."

Time and Overtime

"You ought to cut my hair cheaper, there's so little of it."

"Oh, no. In your case we don't charge for cutting the hair, we charge for having to search for it."

Household Duty

Brown was aroused from his sleep by his wife. "John," she whispered excitedly, "there's a mouse in the room; I can hear him squeak."

"Well," growled her husband, "what do you expect me to do; get up and oil him?"

Why Satan Laffed

It seems the gate broke down between Heaven and Hell. St. Peter appeared at the broken part of the gate and called out to the devil, "Hey, Satan. It's your chance to fix it this time."

"Sorry," replied the boss of the land beyond the Styx. "My men are too busy to worry about fixing a mere gate."

"Well, then," scowled St. Peter, "I'll have to sue you for breaking our agreement."

"Oh, yeah," yeah'd the devil, "where are you going to get a lawyer?"

Passing of the Lazy Bench

When the tools are running easy
With a soft, rhythmatic jar,
And the rig is filled with shadows
From the forges flickering fire;

Just before the plant is started
Or the evening star comes out,
I can see so many faces
In the shadows all about.

Drillers at McKeesport,
Cabin Creek, and Olean;
Men who rolled a rag line cracker;
Men who spliced a nine-strand.

Men who knew just as surely
What was happening in the hole
As a pigeon knows where home is
Or a pilot knows a shoal.

"Yellow Dogs" we had to work by,
Hickory logs the pot to fire,
Sockets stiff instead of swivel,
Manila line instead of wire.

On the floor no indicator,
For the hole no drill-stem test;
Just a hand upon the drill-line,
Eye and ear must do the rest.

Grant Emory and Gid Morgan,
Plummer Boyd and Yellow Young;
In some oil field or other
I've run tour with every one.

Gene Horner and Pete Huffman,
Johnnie with his paper sack,
Mail Pouch Joe and Beech Nut Charlie,
Perry Fitz, Toledo Jack.

But the scythe of Time is thinning
Ranks that lived beneath the beam,
And the draw-works stills the pittman
As thhe sail was furled by steam.

—Cub Wheeler.

Provided For

What, you're going to marry that hard-up lodger of yours? What on earth are you going to live on?

We'll be all right. The poor fellow owes me enough to keep us in comfort for years.

Potent

She was giving an order to the grocer.

"And I require some cheese," she said.

"Yes, miss," replied the grocer, smiling amiably, "I have some lovely cheese."

"You should not say 'lovely cheese'," said the customer severely.

"But why not, miss? It is lovely cheese."

"Because,"—she tried to combine maidenly modesty with an air of learning—"because lovely should only be used to qualify something that is alive."

The grocer's smile broadened as he glanced at the Gorganzola.

"Well, miss," he said, "I'll stick to 'lovely'."

Marvelous

An English tourist was on his first visit to Niagara Falls, and a guide was trying to impress him with their magnificance.

"Grand," suggested the guide.

The visitor did not seem impressed.

"Millions of gallons a minute," explained the guide.

"How many in a day?" asked the tourist.

"Oh, billions and billions," answered the guide.

The visitor looked across, and down and up, as if gauging the flow. Then he turned away, apparently unimpressed.

"Runs all night, too, I suppose," he remarked.

No Contest

"Well, Sam, I see you're back for fighting with your wife. Liquor again?"

"No, sah, Jedge, she licked me dis time."

Judging From the Ride

The guide was conducting a tourist party through the automobile plant. He stopped by the assembly line.

"Do you know what would happen if that man on the right side ever missed a day at work?" he asked the members of the party.

"No; what would happen?" spoke up one.

"Twenty-two hundred and sixty-one cars would go out of the factory without springs."

"Say, mister," said an interested onlooker, "that fellow's been off a lot, hasn't he?"

Deflated

An elderly gentleman, just recently married, thought he would like an heir. He consulted a doctor who, after examining him, said: "You may be heir-minded, but you're just not heir-conditioned."

Tight

This is the first complaint we have ever had about this make of shoes. Didn't they fit you?

Aye, they fit me all right, but they're a wee bit tight for my brother on the night shift.

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